400 Seventh Street, S.W.
Washington, D.C. 20590

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

Dear Crash Data Researchers/Users:

Thank you for choosing crash data from the National Highway Traffic Safety Administration (NHTSA) for your research or other use. The information contained in this motor vehicle crash report is collected, maintained and distributed in accordance with Public Law 89-564. In accordance with this Public Law, NHTSA is required not to release any case information until completion of quality control procedures. These procedures include a review of the case material to extract all names, licenses and registration numbers, non-coded interview material, non-research related researcher comments in the margins, non-factual data, and the production number portion of the vehicle identification number (VIN).

If you requested NHTSA to query its database files in order to identify a specific crash, then that query was made using non-personal descriptors you provided for use in our search. This motor vehicle crash may have been identified from a data search and matches the general, non-personal descriptors you provided, but we cannot confirm that this is the specific crash report you requested.

If you have any questions with regard to the above procedures, please contact the Field Operations Branch, Crash Investigation Division, National Center for Statistics and Analysis at 202-366-4820. Again, please be advised that we cannot confirm that this is the case that you have specifically requested nor can we certify the information to be correct.

*** *** ***

NATIONAL CAPITOL SYSTEMS, INC.

[redacted] VIRGINIA [redacted]

ACCIDENT INVESTIGATION
Case No. 90-02
[redacted] Arkansas

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D.C. 20590

NATIONAL CAPITOL SYSTEMS, INC.

AIRBAG INVESTIGATION

CASE NO. 90-02

[redacted] ARKANSAS

TECHNICAL REPORT

NATIONAL CAPITOL SYSTEMS, INC.

[redacted] Virginia [redacted]

AIRBAG INVESTIGATION

CASE NO. 90-02

[redacted]ARKANSAS

Contract No. DTHN[redacted]

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D.C. 20590

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.

4. Title and Subtitle	5. Report Date
Airbag Vehicle Accident Investigation NCSI Case No. 90-02	[redacted]1990
	6. Performing Organization Code
7. Author(s) Accident Investigation Team - [redacted]	8. Performing Organization Report No.
9. Performing Organization Name and Address National Capitol Systems, Inc. [redacted]	10. Work Unit No.
	11. Contract or Grant No. [redacted]
12. Sponsoring Agency Name and Address U.S. Department of Transportation NHTSA - National Highway Traffic Safety Administration	13. Type of Report and Period Covered Technical Report Accident Date [redacted]/90
	14. Sponsoring Agency Code

15. Supplementary Notes

1990 Dodge Spirit equipped with a driver's side airbag supplemental restraint system in a right-angle frontal impact with a 1979 Pontiac Grand Prix.

16. Abstract

See Summary on page 1 of document.

17. Key Words	18. Distribution Statement
Airbag deployment Supplemental restraint system	General Public

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
None	None	75	

TABLE OF CONTENTS

NCSI In-Depth Accident Investigation Team
Airbag Deployment Investigation
[redacted] Arkansas
Case No. 90-02

SUMMARY

This is an in-depth study of an accident involving an airbag equipped 1990 Dodge Spirit and a 1979 Pontiac Grand Prix. The accident occurred on [redacted] 1990, at 1424 hours at the intersection of [redacted] and [redacted] Streets in [redacted] Arkansas. In-depth scene and vehicle inspections were conducted on [redacted] 1990 by [redacted] and [redacted]

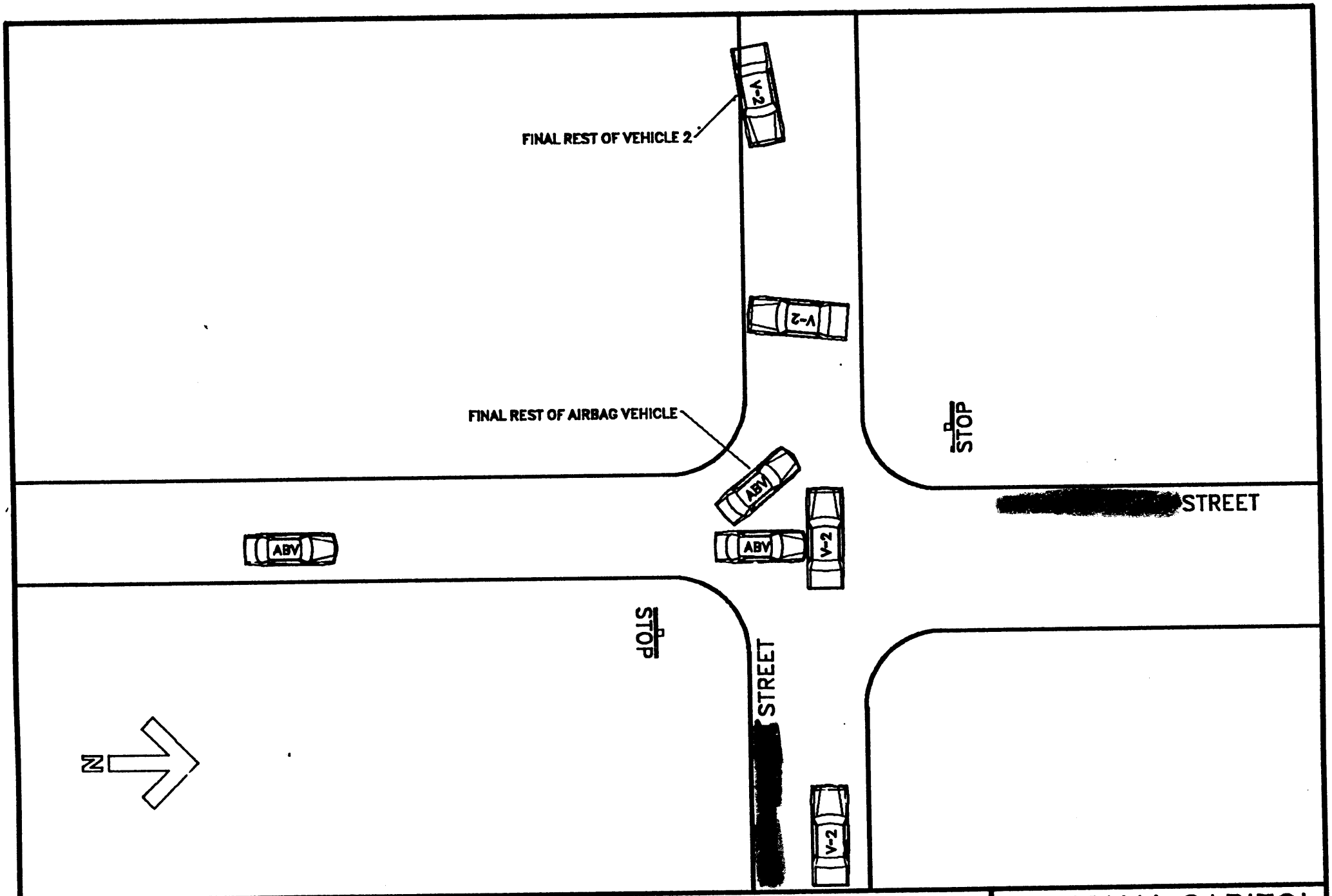
Prior to the accident, the Spirit was traveling north on [redacted] Street, approaching the intersection of [redacted] Street and [redacted] Street. The Grand Prix was traveling west on [redacted] Street, approaching the intersection. A stop sign is present at the intersection for traffic traveling north or south on [redacted] Street. No controls are present for traffic on [redacted] Street. Both streets are two-lane undivided asphalt roadways with posted speed limits of 30 miles per hour.

The Grand Prix entered the intersection and was struck in the left side by the frontal surface of the Spirit in a right-angle impact. After the impact between the vehicles, the Spirit rotated counter-clockwise approximately 60 degrees and came to rest in the intersection. The Grand Prix rotated counter-clockwise approximately 180 degrees and came to rest west of the intersection near the south edge of [redacted] Street headed east.

A CDC of 02-FDEW-1 was assigned to the damage to the Spirit, with a maximum residual crush of 4.2 inches. Damaged exterior components included the front bumper, hood, right front fender, grille, and right parking lamp. Damaged interior components included the steering assembly and airbag components. The Spirit was disabled in the crash and towed to a local storage facility. The Grand Prix was driven away following the police investigation of the accident. A CDC of 11-LZEW-2 was assigned to the damage to the Grand Prix, with a maximum residual crush of 6.0 inches.

The driver's side supplemental airbag restraint system of the Spirit was deployed by the frontal impact forces acting on the vehicle. The 19 year-old driver stated that she suffered a laceration to the inside of her lip from her teeth due to the impact of her face with the deployed airbag. She was transported to a local hospital where she was treated and released.

An EDCrash reconstruction using the damage profiles resulted in a speed change (Delta V) of 11.1 miles per hour for the Spirit and 9.5 miles per hour for the Grand Prix.



NHTSA In-Depth Airbag Accident Investigation Case 90-02

Accident Date: [redacted]/90 | Location: [redacted] Arkansas

NATIONAL CAPITOL SYSTEMS, INC.

NCSI IN-DEPTH ACCIDENT INVESTIGATION
AIRBAG DEPLOYMENT INVESTIGATION

FLEET - Private Owner
LOCATION - [redacted] Arkansas
CASE NO. - 90-02

IDENTIFICATION

Location/Street:	[redacted] and [redacted] Streets
Area/Type:	Urban
Accident Date/Time:	[redacted] 1990 at 1424 hours
Notification Date:	[redacted] 1990
Investigating Police Agency:	[redacted] Police Department
Accident Type:	Car/Car Right-angle
Air Bag Vehicle Occupant Injury Severity:	Minor (AIS-1)

AMBIENCE

Viewing Conditions:	Daylight
Weather:	Clear
Precipitation:	None
Road Surface:	Dry

ROADWAY

Location:	[redacted] Street at intersection with [redacted] Street
Type:	Arterial
Width:	23'-6"
Number of Lanes:	Two
Median:	None
Surface Material:	Asphaltic aggregate
Road Edge:	No improved shoulders
Traffic Density:	Moderate

ROADWAY, CONTINUED

Coefficient Of Friction:	0.60 (estimated)
Vertical Alignment:	Level
Horizontal Alignment:	Straight

TRAFFIC CONTROLS

Signals/Signs:	Stop sign for North [redacted]
Speed Limit:	30 miles per hour

VEHICLES	Airbag Vehicle	Other Vehicle
Year:	1990	1979
Make:	Dodge	Pontiac
Model:	Spirit	Grand Prix
Body Style:	Four-door	Two-door
V.I.N.:	1B3XA46K9LF******	2J37Y9P******
Exterior Color:	Blue metallic	Blue and tan
Odometer Reading:	2277.	134092.
Securiflex Windshield:	Not equipped	
Windshield Damage:	None	
Engine:	4 cyl./2.5L	
Transmission:	3 speed automatic/ column mounted selector	
Steering:	Power assisted	
Brake System:	Power-assisted	
Interior Padding:	Upper and mid-level instrument panel, door panels, armrests, head restraints, sunvisors, upper "A" pillars, steering wheel hub and spokes.	

VEHICLES, CONTINUED

Active Restraint System Availability:	Three-point lap and shoulder belt systems for the driver, front right occupant, and rear outside occupants. Two-point lap belt for rear center occupant.
Active Restraint System Usage:	None
Usage Source:	PAR and interviewee
Passive Restraint System Usage:	Driver airbag

VEHICLE DAMAGE

	Airbag Vehicle	Vehicle #2
Object Struck:	Vehicle #2	Airbag vehicle
Event Number:	One	One
Damage Location:	Front	Left side
CDC:	02-FDEW-01	11-LZEW-02
Tow Status:	Towed due to damage	Driven
Exterior Damage:	The frontal surface of the airbag vehicle impacted the left side of the Grand Prix in an angle impact. Direct damage extended across the entire frontal plane of the Spirit a distance of 55.0 inches. Crush measurements taken across the frontal plane were as follows: C1 = 1.0" C2 = 1.2" C3 = 1.6" C4 = 1.8" C5 = 3.8" C6 = 4.2"	The Grand Prix was struck in the left side by the frontal surface of the Spirit. Direct damage extended along the side of the vehicle for a distance of 97.0 inches and direct plus induced damage length was 115.0 inches. Crush measurements along the side plane were as follows: C1 = 0.0" C2 = 2.0" / Altered C3 = 4.0" / Altered C4 = 6.0" C5 = 0.8" C6 = 0.0"

VEHICLE DAMAGE, CONTINUED

	Maximum residual crush was 4.2 inches, located at C6.	Maximum residual crush was 6.0 inches, located at C4.
	Damaged exterior components included the front bumper, grille, hood, right front fender, right front parking lamp.	Damaged exterior components included left side door, left rear quarter panel, left rear wheel, and wheel cover.
Interior Damage:	Interior damaged components were the steering assembly and airbag module.	

COLLISION SEQUENCE

Pre-crash: At approximately 1424 hours on [redacted] 1990, the case vehicle, a 1990 Dodge Spirit equipped with a driver's side supplemental airbag restraint system, was traveling north on the [redacted] Street in [redacted], Arkansas. The Spirit was approaching the intersection of [redacted] and [redacted] Streets. In the vicinity of the accident, [redacted] Street is a two-lane undivided asphalt roadway, with one southbound travel lane and one northbound travel lane. The other vehicle, a 1979 Pontiac Grand Prix, was traveling west on [redacted] Street, approaching the intersection with [redacted] Street. [redacted] Street is a two-lane undivided asphalt roadway with one eastbound travel lane and one westbound travel lane. A stop sign is present at the intersection for vehicles traveling on [redacted] Street. The Spirit entered the intersection as the Grand Prix was passing through the intersection.

Crash: The front of the Spirit struck the left side of the Grand Prix in an angle impact configuration. A CDC of 02-FDEW-01 was assigned to the damage to the Spirit and a CDC of 11-LZEW-3 was assigned to the damage to the Grand Prix from this impact.

Post-Crash: Following impact, the Spirit rotated counter-clockwise approximately 45 degrees and came to rest in the southeast quadrant of the intersection headed northwest. The Grand Prix continued its southward trajectory after impact, rotated counter-clockwise approximately 190 degrees and came to rest west of the intersection near the south edge of [redacted]

COLLISION SEQUENCE, CONTINUED

Street headed east. The impact was of sufficient magnitude to deploy the driver airbag restraint system of the Spirit. The driver stated that she suffered a laceration of her inner lip when her face struck the deployed airbag.

Police Activities: The local police agency was notified of the accident at 1424 hours and a unit arrived on the scene at 1425 hours.

Rescue Activities: The driver of the Spirit was transported to a local clinic where she was treated and released.

VEHICLE VELOCITY ESTIMATES

An EDCRASH reconstruction of the accident resulted in a speed change (delta V) for the Spirit of 11.1 miles per hour, with a longitudinal delta V of -5.5 miles per hour and a lateral delta V of -9.6 miles per hour. EDCRASH generated values for the speed change of the Grand Prix were 9.5 miles per hour for the total delta V with a longitudinal delta V of -8.2 miles per hour and a lateral delta V of 4.8 miles per hour.

RELEVANT SAFETY ISSUES

Applicable Standards:

FMVSS 208: **Occupant Crash Protection:** The 1990 Dodge Spirit was equipped with a factory installed driver's side supplemental airbag restraint system which was deployed as a result of the frontal impact with the side of the Grand Prix. The system functioned properly and effectively, preventing the driver from possibly impacting the steering assembly and windshield, thereby reducing the severity of the injuries of the unrestrained driver.

HUMAN FACTORS/OCCUPANT DATA

DRIVER DATA	Airbag Vehicle	Other Vehicle
Age:	19	30
Sex:	Female	Male
Height:	66 inches	
Weight:	125 lbs.	
Occupation:	Student	
Active Restraint System Usage:	None	
Usage Source:	Police Accident Report and driver interview	
Vision:	Apparently normal	
Vehicle Familiarity:	Daily	
Route Familiarity:	Daily	
Manner of Leaving Scene:	Friend	
Type of Medical Treatment:	Treated by private physician	
Physical State:	Apparently normal	
Psychological State:	Apparently normal	

DRIVER INJURIES

Injury Description	Severity	Source
Laceration inside lower lip	Minor (AIS-1)	Airbag

Injury Coding

	I.S.S. Body Region	O.I.C. Body Region	Aspect	Lesion	System/ Organ	A.I.S. Severity	Injury Source	Direct/ Indirect Injury
1st	6	F	I	L	D	1	45	2

DRIVER KINEMATICS

The driver stated that she was seated in a normal position and was not restrained by the active three-point lap and shoulder belt system of the Spirit.

The driver's side airbag restraint system deployed as a result of the frontal impact. The driver responded to the impact force by moving forward and to the right relative to the vehicle interior, loading the deployed airbag module with her face and upper torso. She stated that she sustained a laceration of her inner upper lip from the impact force with the deployed airbag. Occupant contact to the airbag was noted during the inspection of the vehicle.

LIST OF ATTACHMENTS

Appendix A: Police Accident Report

Appendix B: NASS Data Collection Forms

Appendix C: Airbag Supplement Form

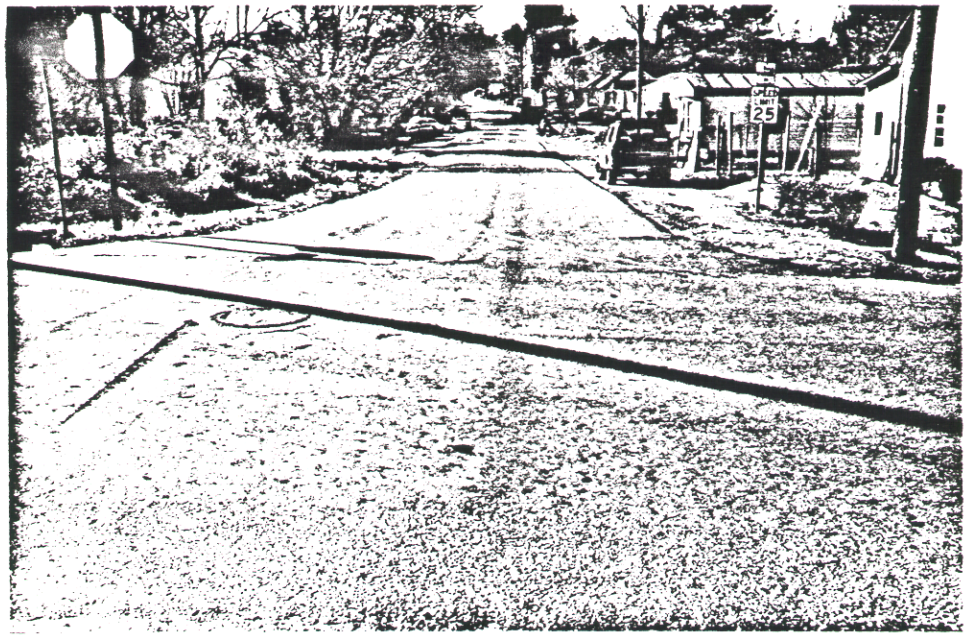
Appendix D: EDCRASH Output

OTHER SOURCE OF DATA

Driver Interview

1. Pre-impact travel of the 1990 Dodge Spirit (airbag vehicle)\ north on [redacted] Street in [redacted] Arkansas.

2. Area of impact of the Spirit with the 1979 Pontiac Grand Prix, and final rest area of the Spirit.



3. Opposite view from beyond impact looking south.

4. Pre-impact travel of the Grand Prix west on [redacted] Street.

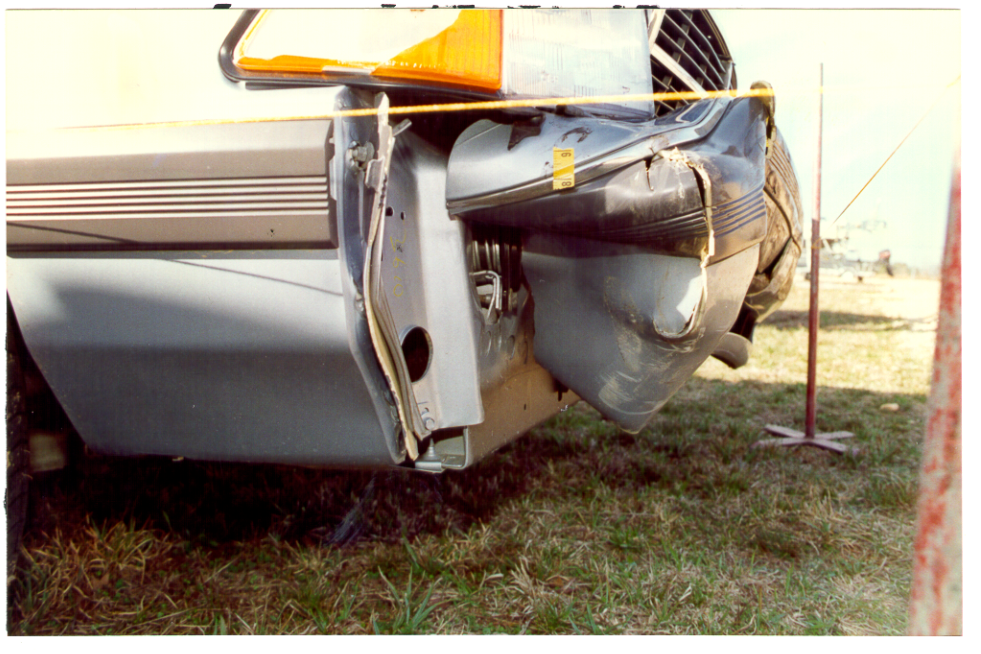
5. Area of impact looking west.

6. Front-right overall view of the 1990 Dodge Spirit.

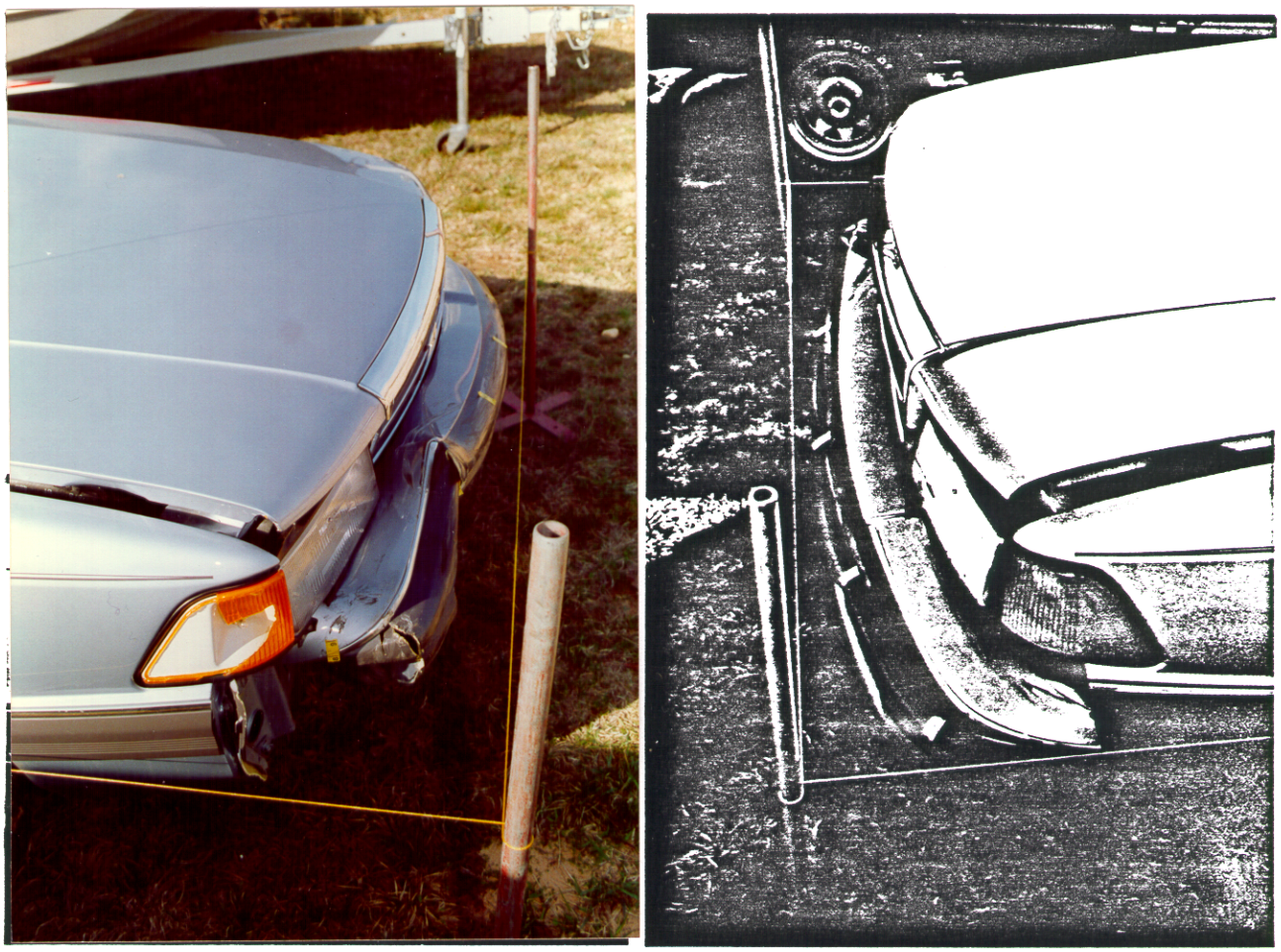
8. Rear-left overall view of the Spirit.

9. Front left overall view of the Spirit.

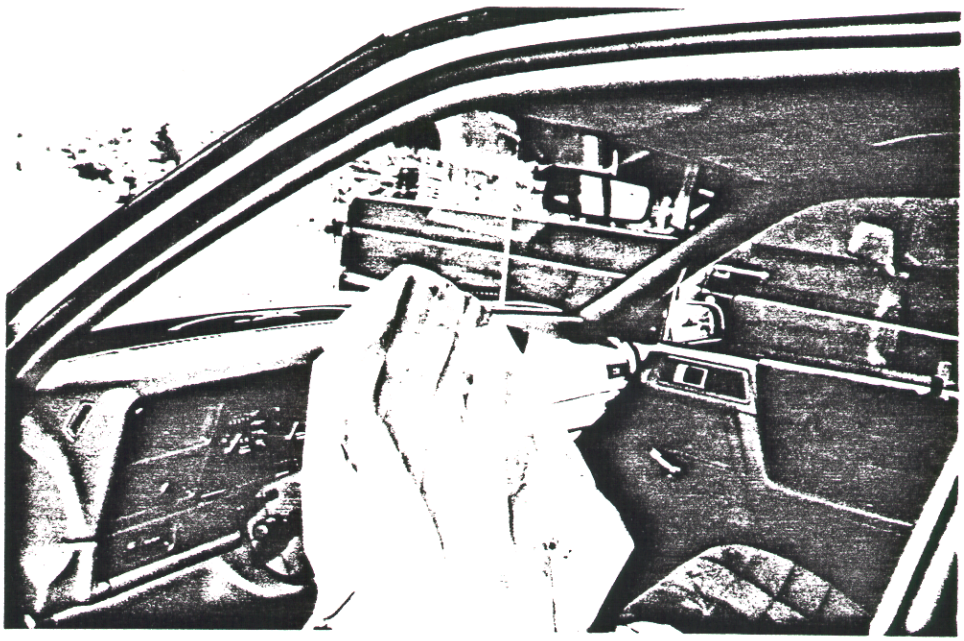
10. Close-up view of frontal impact area.



11. Front-right corner view of the Spirit.

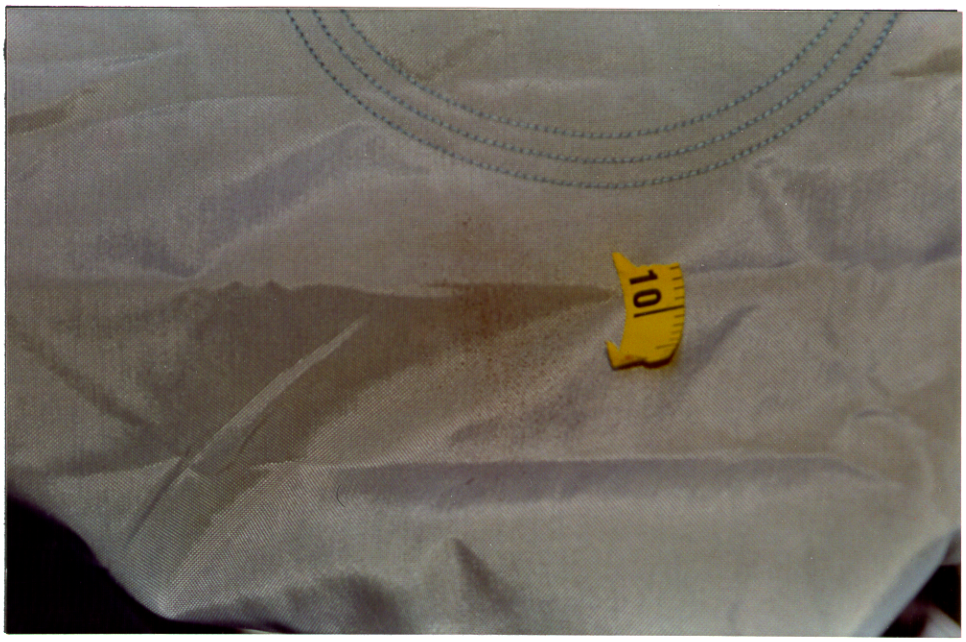


12-13. Views down front stringline showing rearward crush of the bumper.

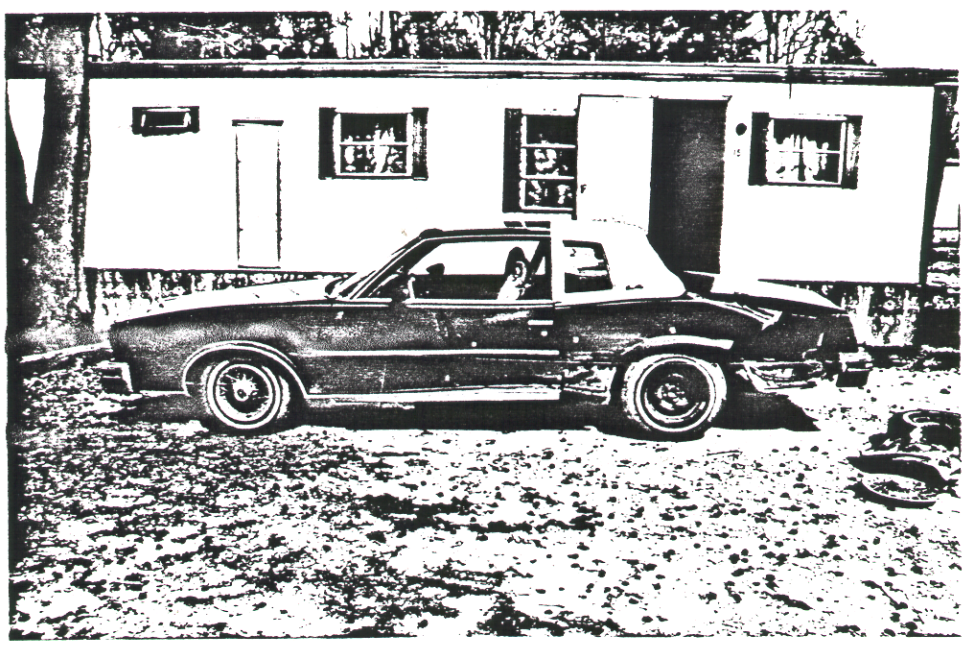


14. Overall view of frontal interior.

15. Overall view of deployed airbag showing occupant contact.



16. Close-up of occupant contact to the deployed airbag.



17. Left side view of the 1979 Pontiac Grand Prix.

19. Closeup view of damage to the Grand Prix.

20. Additional close-up view of left side damage.

SLIDE INDEX
NCSI CASE NO. 90-02

SCENE INDEX

1. Path of the case vehicle (1990 Dodge Spirit equipped with a driver airbag) into impact. The Spirit was northbound on the [redacted] Street in [redacted], Arkansas.

2. View of area of impact between the Spirit and a 1979 Pontiac Grand Prix and final rest area of the Spirit.

3. Opposite view from beyond impact and final rest area of the Spirit.

4. Path of the Grand Prix into impact. The Grand Prix was traveling west on [redacted] Street.

5. View of impact area looking west.

6-7. Path of the Grand Prix from impact to final rest and final rest area of the Grand Prix.

8. Opposite view of impact area looking east.

9. Opposite view from beyond final rest of the Grand Prix.

AIRBAG VEHICLE INDEX

10-14. Frontal views of the 1990 Dodge Spirit equipped with a driver airbag restraint system, showing damage from impact with the left side of the Pontiac Grand Prix.

15. Front-right overall view of the Spirit showing damage.

16. Rear-right overall view.

17. Rear-left overall view.

18. Front-left overall view.

19-22. Interior views of the Spirit. Occupant contacts were noted to the steering assembly and airbag.

23. View of the outer surface of the deployed airbag module showing occupant contact.

24. Top surface of the airbag - no contacts noted.

25. Bottom surface of the airbag - no contacts noted.

26-27. Close-up of occupant contact at approximately 8 o'clock on the outer surface of the deployed airbag.

28-29. Closeup views of stroking of the E.A.D's behind the front bumper of the Spirit.

OTHER VEHICLE INDEX

30. Front-left overall view of the 1979 Grand Prix.

31-34. Views of the left side showing impact damage and residual crush to the Grand Prix.

35. Rear-left overall view of the Grand Prix.

36. Front-right overall view of the Grand Prix.

NC 9002 #1

NC 9002 #2

NC 9002 #3

NC 9002 #4

NC 9002 #5

NC 9002 #6

NC 9002 #7

NC 9002 #8

NC 9002 #9

NC 9002 #10

NC 9002 #11

NC 9002 #12

NC 9002 #13
Best Available

NC 9002 #14
Best Available

NC 9002 #15

NC 9002 #16

NC 9002 #17

NC 9002 #18

NC 9002 #19

NC 9002 #20

NC 9002 #21

NC 9002 #22

NC 9002 #23

NC 9002 #24

NC 9002 #25

NC 9002 #26
Best Available

NC 9002 #27

NC 9002 #28

NC 9002 #29

NC 9002 #30

NC 9002 #31

NC 9002 #32

NC 9002 #33

NC 9002 #34

NC 9002 #35

NC 9002 #36

Appendix A

Police Accident Report

ARKANSAS MOTOR VEHICLE TRAFFIC ACCIDENT REPORT

MUNICIPAL USE ONLY
Incident # - Unit Assigned Premises Geo. Code District

Accident Severity/Injury Code
1. ☐ Fatal Injury
2. ☐ Incapacitating Injury
3. ☐ Nonincapacitating Injury
4. ☐ Possible Injury
5. ☐ Property Damage only

LOCATION

County [redacted] City [redacted]

Not in City, but ____ Distance ☐ N ☐ S ☐ E ☐ W from nearest city limit ____

Road/Street of Accident Occurrence [redacted] If on numbered Highway/County Road, give # Section Log Mile

At its intersection with [redacted] Give # Highway, County Road, Name of City Street as applicable

Special Reference
Not at intersection, but ____ Distance ☐ N ☐ S ☐ E ☐ W ____ Reference Point

(Use only the following as Reference Points) Intersecting Highway, County Road, City Street, Bridge, Railroad Crossing, Overpass, Underpass, Milepost, State Line, County Line, City Limit

Date [redacted] 90 Month Day Year

Day of Week [redacted]

Time 2:24 AM PM

No. Vehicles Involved 2

HIT & RUN ☐ YES ■ NO

VEHICLE 1

Vehicle 79 FONTIAC GRA. 2DOOR Reg. 91 ARK. [redacted] Vin # 2J37Y9F[redacted]
Year Make Model Body Style Year State Number

Owner [redacted] Address [redacted]

☐ Rented to
☐ Leased to Address

Trailers ☐ No ☐ Yes # Units ____ Reg. State. Plate # Cargo ☐ Not Known ☐ Hazardous ☐ Nonhazardous

Prior Vehicle Damage NONE NOTED Vehicle Defects NONE NOTED

Vehicle Damage as result of Accident
☐ Disabled ■ Functional ☐ Other Damage ☐ No Damage Investigator's Estimated Cost to Repair $ 900.00

■ Driven away
☐ Towed away By OPERATOR To UNKNOWN

Seating Position
00 Nonoccupant
11 Front Seat L S
12 Front Seat C
13 Front Seat R S
19 Front Seat Not Known
21 Second Seat L S
22 Second Seat C
23 Second Seat R S
29 Second Seat Not Known
31 Third Seat L S
32 Third Seat C
33 Third Seat R S
39 Third Seat Not Known
41 Fourth Seat L S
42 Fourth Seat C
43 Fourth Seat R S
49 Fourth Seat Not Known
50 Sleeper Section Cab of Truck
51 Open Bed of Truck
97 In Trailing Unit
98 Riding on Vehicle Exterior
99 Not Known

OPER & OCCUP V 1

Operator [redacted] Address [redacted] ARK.

Type License: Chauffeur ☐ Operator ■ Cyclist ☐ School Bus ☐ Learner Permit ☐ Court Permit ☐ Restricted ☐ No License ☐

BAC Test: Yes ☐ Results If Known ____ Not Tested ■ Refused Test ☐

Operator Residence: Local ■ Elsewhere in State ☐ Nonresident of State ☐ Residence Not Known ☐

Operator License [redacted] License # ARK. State Operator Data DOB [redacted]

Name ____ Address ____

Name [redacted] Address [redacted]

Name ____ Address ____

Name ____ Address ____

Race	Sex	Age	Inj.	Seat Pos.	Type Rest.
W	M	30	4	11	9
W	M		5	13	9

VEHICLE 2/OTHER

Vehicle 90 DODGE SPRIT 4DOOR Reg. NNONE Vin # ____
Year Make Model Body Style Year State Number

Owner [redacted] Address [redacted]

☐ Rented to [redacted]
☐ Leased to Address [redacted]

Trailers ☐ No ☐ Yes # Units ____ Reg. State. Plate # Cargo ☐ Not Known ☐ Hazardous ☐ Nonhazardous

Prior Vehicle Damage NONE NOTED Vehicle Defects NONE NOTED

Vehicle Damage as result of Accident
■ Disabled ☐ Functional ☐ Other Damage ☐ No Damage Investigator's Estimated Cost to Repair $ 3000.00

☐ Driven away
■ Towed away By [redacted] To [redacted]

Occupant Restraint System
0 — None Used
1 — Shoulder Belt
2 — Lap Belt
3 — Lap & Shoulder Belts
4 — Child Safety Seat
5 — Motorcycle Helmet
6 — Deployed Air Bag
7 — Non-Deployed Air Bag
8 — Restraint Used — Type Unknown
9 — Unknown

Ejection
0 — Not Ejected
1 — Totally Ejected
2 — Partially Ejected
9 — Unknown

OPER 2/PED/OCCUP

Operator [redacted] Address [redacted] ARK.

Type License: Chauffeur ☐ Operator ■ Cyclist ☐ School Bus ☐ Learner Permit ☐ Court Permit ☐ Restricted ☐ No License ☐

BAC Test: Yes ☐ Results If Known ____ Not Tested ■ Refused Test ☐

Operator Residence: Local ■ Elsewhere in State ☐ Nonresident of State ☐ Residence Not Known ☐

Operator License [redacted] License # ARK. State Operator Data DOB [redacted]

Name ____ Address ____

Name ____ Address ____

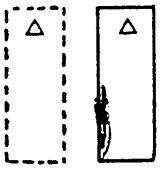
Name ____ Address ____

Name ____ Address ____

Race	Sex	Age	Inj.	Seat Pos.	Type Rest.
B	F	19	3	11	9

Veh 1, Damage

☐ None ☐ Overturned
☐ Burned ☐ Submerged
☐ Top ☐ U.Carriage
☐ Unknown



Color

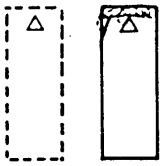
Body Style 2 DOOR

Point of Initial Contact LEFT SIDE

☐ Head On	☐ Rear End	☑ Angle
☐ Sideswipe	☐ Sideswipe	☐ Overturn
☐ Left Turn	☐ Right Turn	☐ Backing
☐ Left Turn	☐ Right Turn	☐ Other

Veh 2, Damage

☐ None ☐ Overturned
☐ Burned ☐ Submerged
☐ Top ☐ U.Carriage
☐ Unknown



Color BLUE

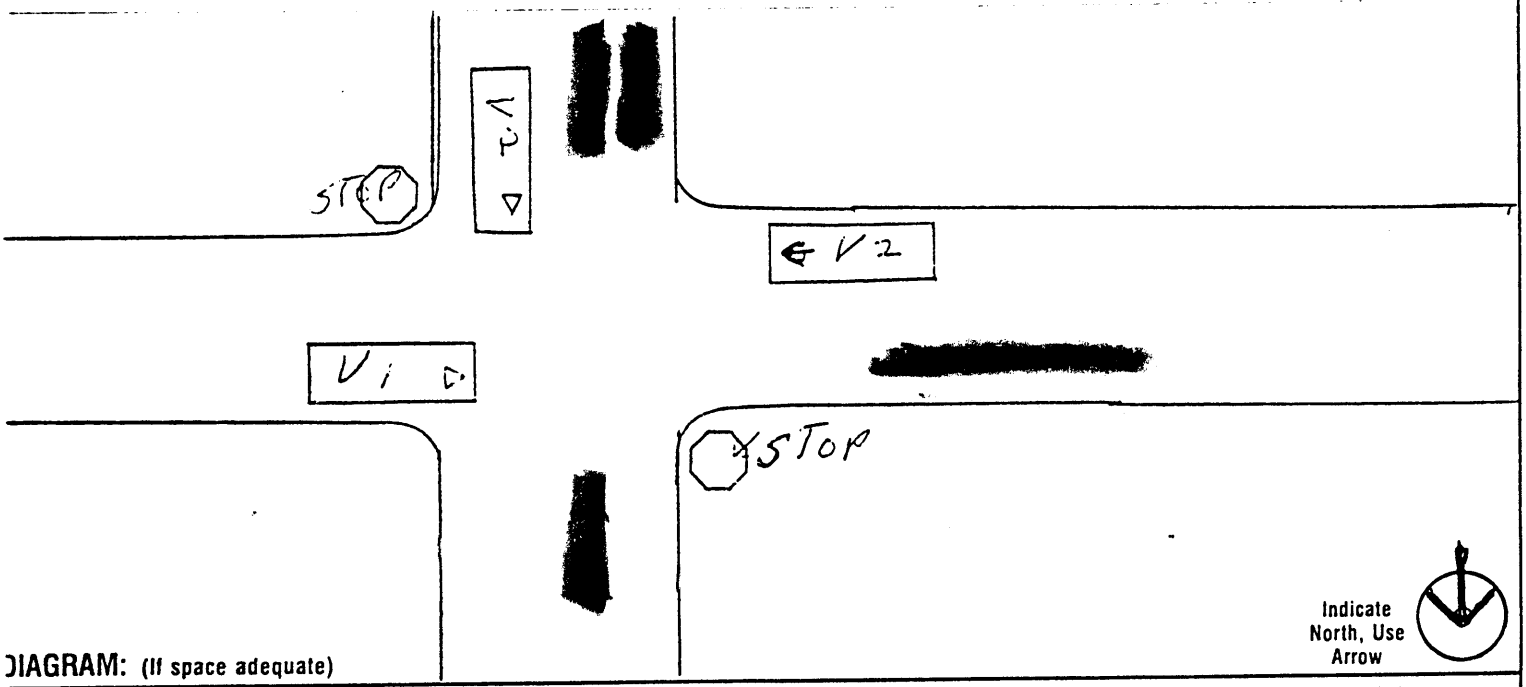
Body Style 4 DOOR

Point of Initial Contact FRONT

INVESTIGATOR DESCRIPTION: (*Refer* to vehicle by operator)

OPERATOR OF VEH. 1 STATED THAT HE WAS TRAVELING WEST ON [redacted] ST. AND THAT VEH. 2 JUST CAME OUT OF [redacted] ST. AND HIT HIM.
OPERATOR OF VEH. 2 STATED THAT SHE THAOUGHT VEH. 1 WAS GOING TO TURN INTO [redacted] ST. SO SHE PULL ON OUT OF [redacted] ST AND STRUCK VEH. 1.
VEH. 2 WERE GOING NORTH AND FAIL TO YIELD AT STOP SIGN.
VEH. 1 WAS KNOCK AROUND AND HEADED BACK EAST.

DIAGRAM: (If space adequate)



Indicate North, Use Arrow

Arrest: [redacted] Charge FAIL TO YIELD Summons # [redacted]

Arrest: Charge Summons #

Time notified of accident 2:24 P. M. Time arrived 2:25 P. M. Date [redacted]/90

The data in this report reflects my best judgement and knowledge based on information available to me. Photos ☐ Yes ☑ No

Investigator: [redacted] Name and ID Number [redacted] Department [redacted]/90 Date Submitted

Atmospheric Conditions
0 ☒ No Adverse Conditions
1 ☐ Rain 2 ☐ Sleet
3 ☐ Snow 4 ☐ Fog
5 ☐ High Winds Temperature
6 ☐ Smoke 7 ☐ Smog 8 ☐ Dust
9 ☐ Other
10 ☐ Not Known

Light Conditions
1 ☒ Daylight 2 ☐ Dark 3 ☐ Dawn 4 ☐ Dusk
5 ☐ Dark but lighted
6 ☐ Dark, light not functioning
7 ☐ Not Known

Accident Locale
1 ☐ Rural 2 ☒ Urban
3 ☐ Not Known

Roadway Surface Condition
1 ☒ Dry 2 ☐ Wet 3 ☐ Ice
4 ☐ Sand 5 ☐ Dirt 6 ☐ Oil
7 ☐ Other
8 ☐ Not Known

Road System
Speed Limit 30 Posted ☒ Yes ☐ No
1 ☐ Interstate 2 ☐ U.S. Hwy. 3 ☐ State Hwy.
4 ☐ County Road 5 ☒ City Street 6 ☐ Other
7 ☐ Not Known

Road Surface Type
1 ☐ Concrete 2 ☒ Asphalt
3 ☐ Gravel 4 ☐ Dirt
5 ☐ Other
6 ☐ Not Known

Roadway Alignment/Profile
1 ☒ Straight 1 ☐ Level
2 ☐ Curve 2 ☒ Grade
3 ☐ Not Known 3 ☐ Hillcrest
4 ☐ Sag
5 ☐ Not Known

Construction/Maintenance Zone
1 ☐ Yes 2 ☒ No
3 ☐ Highway Const 4 ☐ Utility 5 ☐ Other
Protected 6 ☐ No 7 ☐ Yes How
8 ☐ Reduced Road Width
9 ☐ Road Repair 10 ☐ Maintenance

Trafficway Flow 2 # Lanes
1 ☐ Divided 2 ☒ Not Divided
3 ☐ Divided by Median
4 ☐ Divided by Other Barrier
5 ☐ Divided by Temporary Barrier
6 ☐ One Way Traffic
7 ☐ Not Known

Roadway Conditions
0 ☒ No Adverse Conditions
1 ☐ Obstruction, Warning
2 ☐ Obstruction, No Warning
3 ☐ Loose Materials on Surface
4 ☐ Holes 5 ☐ Ruts 6 ☐ Bumps
7 ☐ Defective Shoulders
8 ☐ No Markings
9 ☐ Other Defects
10 ☐ Defects Not Known

Relation to Junction
0 ☐ Non-Junction
1 ☒ Intersection 2 ☐ Intersection Related
3 ☐ Driveway 4 ☐ Alley
5 ☐ Exit Lane 6 ☐ Entrance Lane
7 ☐ RR Crossing
8 ☐ Crossover Lane
9 ☐ Other
10 ☐ Not Known

Traffic Controls
0 ☐ No Controls Present
1 ☐ Flashing Beacon
2 ☐ Traffic Signal
3 ☒ Stop Sign 4 ☐ Yield Sign
5 ☐ RR Crossing with Gates & Lights
6 ☐ RR Crossing, Flashing Lights Only
7 ☐ RR Crossing, Crossbuck Only
8 ☐ School Zone, Children Present
9 ☐ Pedestrian Signal
10 ☐ Lane Markings
11 ☐ Other Controls
12 ☐ Controls Not Known
13 ☐ Device Not Functioning
14 ☐ Device Functioning Properly
15 ☐ Device Functioning Improperly

Vehicle Travel Direction

V1	☐ N	☐ S	☐ E	☒ W
V2	☒	☐	☐	☐

Vehicle Action	V1	V2	Vision Obscurement	V1	V2
1 Going Straight	☒	☒	0 Vision not obscured	☒	☒
2 Negotiating Curve	☐	☐	1 Rain	☐	☐
3 Slowing	☐	☐	2 Snow	☐	☐
4 Stopped in Traffic Lane	☐	☐	3 Sleet	☐	☐
5 Merging	☐	☐	4 Fog	☐	☐
6 Enter, Parked Position	☐	☐	5 Glare	☐	☐
7 Exit, Parked Position	☐	☐	6 Sunlight	☐	☐
8 Parked	☐	☐	7 Headlights	☐	☐
9 Turning Right	☐	☐	8 Building	☐	☐
10 Turning Right on Red	☐	☐	9 Billboard	☐	☐
11 Turning Left	☐	☐	10 Trees	☐	☐
12 Turning Left on Red	☐	☐	11 Shrubs	☐	☐
13 Making U Turn	☐	☐	12 Other Vegetation	☐	☐
14 Backing	☐	☐	13 Moving Vehicle	☐	☐
15 Avoiding Vehicle	☐	☐	14 Parked Vehicle	☐	☐
16 Avoiding Pedestrian	☐	☐	15 Ice on Windshield	☐	☐
17 Avoiding Animal	☐	☐	16 Fog on Windshield	☐	☐
18 Avoiding Other Object	☐	☐	17 Broken Windshield	☐	☐
19 Passing	☐	☐	18 Dirty Windshield	☐	☐
20 Changing Lanes	☐	☐	19 Other	☐	☐
21 Other Action	☐	☐	20 Not Known	☐	☐
22 Action Not Known	☐	☐			

Contributing Factors

	OPR 1	OPR 2	
0	☒	☐	No Contributing Factor
1	☐	☐	Too Fast For Conditions
2	☐	☒	Fail to Yield
3	☐	☐	Alcohol
4	☐	☐	Drugs
5	☐	☐	Disregarded Stop Sign
6	☐	☐	Disregarded Yield Sign
7	☐	☐	Disregarded Traffic Signal
8	☐	☐	Wrong Side Road
9	☐	☐	Wrong Way — 1 Way Traffic
10	☐	☐	Followed Too Close
11	☐	☐	Illegal Right Turn
12	☐	☐	Illegal Left Turn
13	☐	☐	Illegal Lane Change
14	☐	☐	Illegal Passing
15	☐	☐	Prohibited U Turn
16	☐	☐	Operating Defective Lights
17	☐	☐	Operating Defective Brakes
18	☐	☐	Operating Other Defective Equipment
19	☐	☐	Unsafe Backing
20	☐	☐	Other Factor
21	☐	☐	Factor Not Known

Fire Occurrence
0 ☒ No Fire Occurrence
V1 1 ☐ Fire Occurrence, Result of Impact
V2 2 ☐ Fire Occurrence, Result of Impact

First Harmful Event

Non-Collision	Collision With
10 ☐ Overturn	1 ☐ Pedestrian
11 ☐ Fire 12 ☐ Explosion	2 ☐ Pedacycle
13 ☐ Immersion	3 ☐ Railway Train
14 ☐ Gas Inhalation	4 ☒ MV in Transport
15 ☐ Fell from Vehicle	5 ☐ MV in Other Roadway
16 ☐ Injured in Vehicle	6 ☐ Parked Motor Vehicle
17 ☐ Other Non-Collision	7 ☐ Animal
	8 ☐ Other Object Not Fixed

Collision with Fixed Object
20 ☐
Identify Object

First Harmful Event Occurred
1 ☒ On Roadway
2 ☐ Shoulder 3 ☐ Median
4 ☐ Roadside 5 ☐ Outside Trafficway
6 ☐ Location Unknown

Most Harmful Event
V1 M. V. IN TRANSPORT
Identify Event
V2 M. V. IN TRANSPORT
Identify Event

Pedestrian Location
1 ☐ In Crosswalk 6 ☐ No Crosswalk
2 ☐ Intersection 7 ☐ Non-Intersection
3 ☐ On Roadway 8 ☐ Sidewalk
4 ☐ On Road Shoulder 9 ☐ Location Not Known
5 ☐ Bike Path 10 ☐ No Pedestrian
11 ☐ Other Location

Pedestrian Action
0 ☐ Not Visible
1 ☐ Crossing Road, No Intersection
2 ☐ Crossing at Intersection
3 ☐ Walking with Traffic
4 ☐ Walking Against Traffic
5 ☐ Playing 6 ☐ Lying in Roadway
7 ☐ Working 8 ☐ Standing in Roadway
9 ☐ No Pedestrian
10 ☐ Other Ped. Action
11 ☐ Action Not Known

EMS Time Notified
EMS Time Arrived
Injured Transported to
Transported by

INSURANCE CARRIER
V1 [redacted]
V2 [redacted]

Damage to Property Other Than Vehicle — Describe Property
Owner of Property — Name — Address — Estimate of Damage
Notified of Damage — Name — Address — Time — Date
Witnesses — Name — Address — Age — Sex
Witnesses — Name — Address — Age — Sex

Appendix B

NASS Data Collection Forms

U.S. Department of Transportation
National Highway Traffic Safety Administration

CASE SUMMARY

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

PSU NCSE CASE NO. 90-02 TYPE OF ACCIDENT CAR / CAR RT ANGLE IMPACT

A. DESCRIPTION OF THE ACCIDENT SEQUENCE AND ACCIDENT PECULIARITIES

(Provide a summary of the accident sequence as well as any particular event of the accident that is noteworthy. Injury mechanism and vehicle crashworthiness is the focus, not driver culpability. **Do not include any personal identifiers.** Use reverse side if needed.)

SEE SUMMARY PAGE 1

B. VEHICLE PROFILE(S)

Vehicle No.	Class of Vehicle	Year/Make/Model	Most Severe Damage		Component Failure
			Damage Plane	Severity Description	
1	COMPACT	90 DODGE SPIRIT	F	LIGHT	NONE
2	INTERMEDIATE	791 GRAND PRIX	L	MODERATE	NONE

C. PERSON PROFILE(S)

Vehicle No.	Person Role	Seat Position	Restraint Use	Most Severe Injury			
				Body Region	Lesion	AIS	Injury Source
1	D	FL	AIRBAG	F	L	1	AIRBAG
2	D	FL	NONE	NONE	—	—	—
2	P	FR	NONE	NONE	—	—	—

DO NOT SANITIZE THIS FORM

U.S. Department of Transportation
National Highway Traffic Safety Administration

ACCIDENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: NCSI
2. Case Number – Stratum: 90-02

IDENTIFICATION

3. Number of General Vehicle Forms Submitted: 02
4. Date of Accident (Month, Day, Year): [redacted] 9 0
5. Time of Accident: 1424

Code reported military time of accident.

NOTE: Midnight = 2400
Unknown = 9999

SPECIAL STUDIES INDICATORS

Check (✓) each special study (SS12-SS16 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.

6. ___SS12 Not Active: 0
7. ___SS13 AOPS: ___
8. ___SS14 _____: ___
9. ___SS15 _____: ___
10. ___SS16 _____: ___

NUMBER OF EVENTS

11. Number of Recorded Events in This Accident: 01

Code the number of events which occurred in this accident.

ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object on the right.

Accident Event Sequence Number	Vehicle Number	Class of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class of Vehicle	General Area of Damage
12. 01	13. 01	14. 02	15. F	16. 02	17. 03	18. L
19. 02	20.	21.	22.	23.	24.	25.
26. 03	27.	28.	29.	30.	31.	32.
33. 04	34.	35.	36.	37.	38.	39.
40. 05	41.	42.	43.	44.	45.	46.

IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENTS SUPPLEMENT

HS Form 434 (1/90)

CODES FOR CLASS OF VEHICLE

(00) Not a motor vehicle
(01) Subcompact/mini (wheelbase 100 ")
(02) Compact (wheelbase = 100 "–104 ")
(03) Intermediate (wheelbase = 105 "–109 ")
(04) Full size (wheelbase = 110 "–114 ")
(05) Largest (wheelbase 115 ")
(09) Unknown passenger car size
(11) Short utility vehicle
(12) Truck based utility (10,000 lbs GVWR)
(13) Passenger van (10,000 lbs GVWR)
(14) Other van (10,000 lbs GVWR)
(15) Pickup truck (10,000 lbs GVWR)
(18) Other truck (10,000 lbs GVWR)
(19) Unknown light truck type
(20) School bus
(21) Other bus
(22) Truck (10,000 lbs GVWR)
(23) Tractor without trailer
(24) Tractor-trailer(s)
(25) Motored cycle
(28) Other vehicle
(99) Unknown

CODES FOR GENERAL AREA OF DAMAGE (GAD)

CDC APPLICABLE AND OTHER VEHICLES

(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back
(T) Top
(U) Undercarriage
(9) Unknown

TDC APPLICABLE VEHICLES

(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back of unit with cargo area (rear of trailer or straight truck)
(D) Back (rear of tractor)
(C) Rear of cab
(V) Front of cargo area
(T) Top
(U) Undercarriage
(9) Unknown

CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

(01-30) – Vehicle number

Noncollision
(31) Overturn – rollover
(32) Fire or explosion
(33) Jackknife
(34) Other intraunit damage (specify):

_____

(35) Noncollision injury
(38) Other noncollision (specify):

_____

(39) Noncollision – details unknown

Collision with Fixed Object
(41) Tree (4 inches in diameter)
(42) Tree (4 inches in diameter)
(43) Shrubbery or bush
(44) Embankment

(45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
(50) Pole or post (4 inches in diameter)
(51) Pole or post (4 but 12 inches in diameter)
(52) Pole or post (12 inches in diameter)
(53) Pole or post (diameter unknown)

(54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (specify):

_____

(57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify):

_____

(69) Unknown fixed object

Collision with Nonfixed Object
(71) Motor vehicle not in-transport
(72) Pedestrian
(73) Cyclist or cycle
(74) Other nonmotorist or conveyance (specify):

_____

(75) Vehicle occupant
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(88) Other nonfixed object (specify):

_____

(89) Unknown nonfixed object

(98) Other event (specify):

_____

(99) Unknown event or object

U.S. Department of Transportation
National Highway Traffic Safety Administration

ACCIDENT COLLISION MEASUREMENT TABLE

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

Primary Sampling Unit Number NC 5I Case Number–Stratum 90-02

ACCIDENT COLLISION DIAGRAM

LEVEL I
PHYSICAL EVIDENCE ABSENT

To be accomplished when there is no physical evidence present at the scene:

- *approximate vehicle orientation at impact and final rest
- *applicable road/roadway delineation (e.g., curbs/edge lines, lane markings, median markings, pavement markings, etc.)
- *applicable traffic controls (e.g., speed limit)
- *north arrow placed on diagram
- *sketch required

LEVEL II
PHYSICAL EVIDENCE PRESENT

In addition to the Level I tasks noted above, the following must be accomplished when physical evidence is present:

- *document reference point and reference line relative to physical features present at the scene
- *scaled documentation of all accident induced physical evidence
- *scaled documentation of all roadside objects contacted
- *roadway surface type and condition of applicable roadways
- *grade measurements for all applicable roadways
- *scaled representations of the vehicle(s) at pre-impact, impact, and final rest based upon either:
  - a) physical evidence, or
  - b) reconstructed accident dynamics

CRASH DATA

	VEH. #1	VEH. #2	VEH. #3
Heading Angle	360°	270°	
Surface Type	ASP	ASP	
Surface Condition	GOOD	GOOD	
Grade Measurement (v/h)			

Reference Point: _____ Reference Line: _____

Item	Distance and Direction from Reference Point	Distance and Direction from Reference Line

HS Form 431A (1/90)

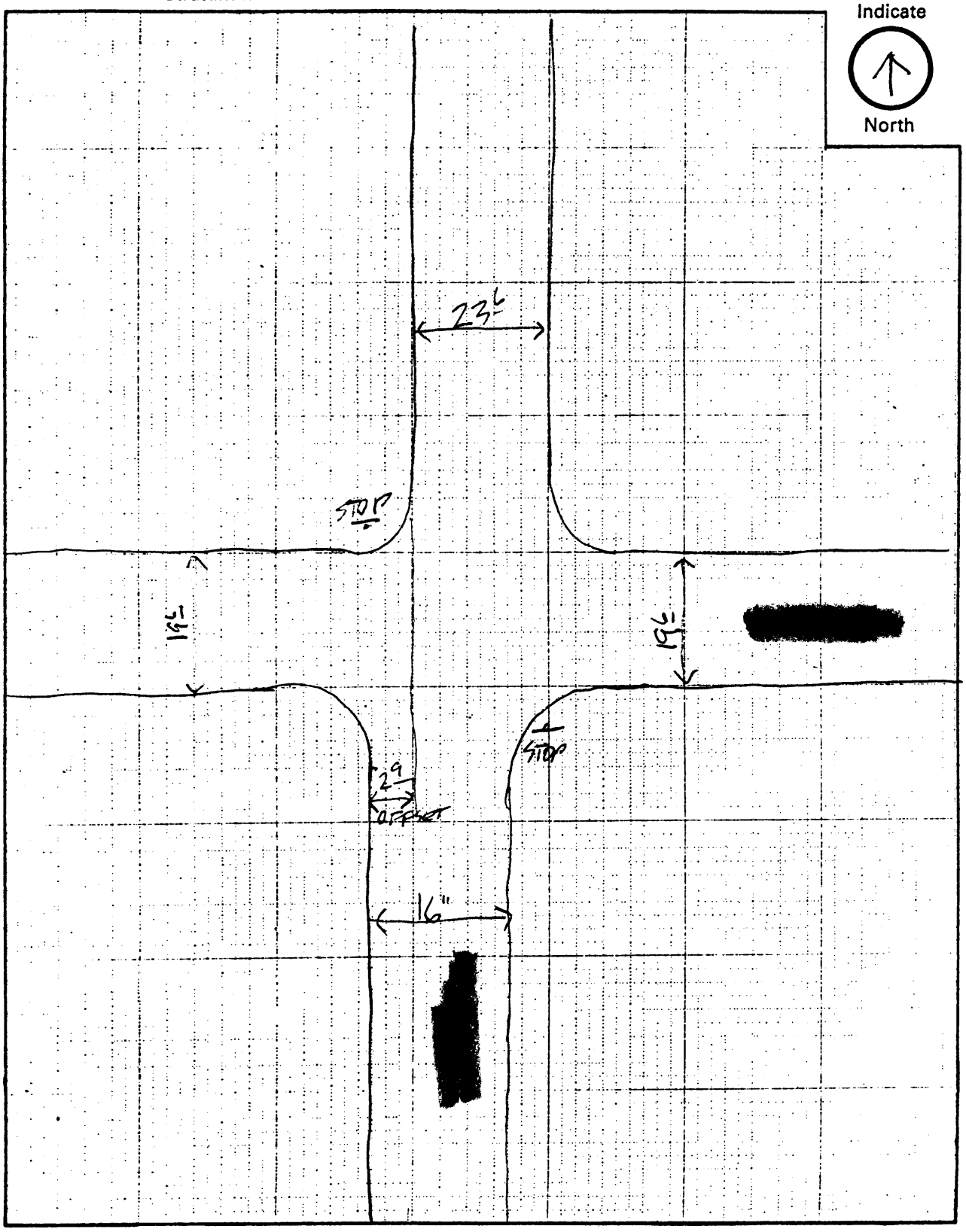
U.S. Department of Transportation
National Highway Traffic Safety Administration

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

ACCIDENT COLLISION DIAGRAM

PSU No. NC 51

Case Number–Stratum 9 0-0 2



HS Form 431B (1/90)

US Department of Transportation
National Highway Traffic Safety Administration

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: NCSI
2. Case Number–Stratum: 90:02
3. Vehicle Number: 01

VEHICLE IDENTIFICATION

4. **Vehicle Model Year**: 90
   Code the last two digits of the model year
   (99) Unknown

5. **Vehicle Make (specify)**: 07
   DODGE
   Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual.
   (99) Unknown

6. **Vehicle Model (specify)**: 019
   SPIRIT
   Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual.
   (999) Unknown

7. **Body Type**: 04
   Note: Applicable codes are found on the back of this page.

8. **Vehicle Identification Number**
   1B3XA46K9L[redacted]
   Left justify; Slash zeros and letter Z (Ø and Z̸)
   No VIN–Code all zeros
   Unknown–Code all nine's

OFFICIAL RECORDS

9. **Police Reported Vehicle Disposition**: 1
   (0) Not towed due to vehicle damage
   (1) Towed due to vehicle damage
   (9) Unknown

10. **Police Reported Travel Speed**: 99
    Code to the nearest mph (NOTE: 00 means less than 0.5 mph)
    (97) 96.5 mph and above
    (99) Unknown

11. **Police Reported Alcohol or Drug Presence**: 0
    (0) Neither alcohol nor drugs present
    (1) Yes (alcohol present)
    (2) Yes (drugs present)
    (3) Yes (alcohol and drugs present)
    (4) Yes (alcohol or drugs present–specifics unknown)
    (7) Not reported
    (8) No driver present
    (9) Unknown

12. **Alcohol Test Result for Driver**: 96
    Code actual value (decimal implied before first digit–0.xx)
    (95) Test refused
    (96) None given
    (97) AC test performed, results unknown
    (98) No driver present
    (99) Unknown

    Source _____

ACCIDENT RELATED

13. **Speed Limit**: 30
    (00) No statutory limit
    Code posted or statutory speed limit
    (99) Unknown

14. **Attempted Avoidance Maneuver**: 01
    (00) No impact
    (01) No avoidance actions
    (02) Braking (no lockup)
    (03) Braking (lockup)
    (04) Braking (lockup unknown)
    (05) Releasing brakes
    (06) Steering left
    (07) Steering right
    (08) Braking and steering left
    (09) Braking and steering right
    (10) Accelerating
    (11) Accelerating and steering left
    (12) Accelerating and steering right
    (97) No driver present
    (98) Other action (specify): _____
    (99) Unknown

15. **Accident Type**: 88
    Applicable codes may be found on the back of page two of this field form
    (00) No impact
    Code the number of the diagram that best describes the accident circumstance
    (98) Other accident type (specify): _____
    (99) Unknown

****** STOP HERE IF GV07 DOES NOT EQUAL 01-49 ******

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles
- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (08) Other automobile type (specify): _____
- (09) Unknown automobile type

Automobile Derivatives
- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, and Brat)
- (11) Auto based panel (cargo station wagon, includes auto based ambulance/hearse)
- (12) Large limousine—more than four side doors or stretched chassis

Utility Vehicles
- (13) Short utility—not truck based (includes Jeep CJ-5, Jeep CJ-7, Renegade, Landrover, Pre-78 Bronco, Landcruiser, Thing)
- (14) Truck based utility (2-door; includes Blazer, Bronco—78 on, Bronco II, Jimmy, Ramcharger, Cherokee, Trailduster, Scout)

Van Based Light Trucks (≤ 10,000 lbs GVWR)
- (20) Minivan (Lumina APV, Astro, Caravan, Plymouth Vista, Aerostar, Safari, Voyager [84 and after], Dodge Vista, Mini Ram Van, Toyota Cargo Van, Toyota Van, Vanagon, VW Bus, Kombi)
- (21) Standard van (Sportvan, Chevy Van, Club Wagon, Ford Econoline, Ram Van, Chateau, Ram Wagon, Vandura, Rally, Voyager [83 and before], Beauville, Sportsman)
- (28) Other van type (specify): _____
- (29) Unknown van type

Light Conventional Trucks (Pickup Style Cab, 10,000 lbs GVWR)
- (30) Compact pickup (<4,500 lbs. GVWR, S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-15 Pup, Mazda Pickup, Mitsubishi Truck, Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup)
- (31) Standard pickup (4,500 to 10,000 lbs. GVWR, C10 - C30, K10 - K30, T10, D100 - D350, W150 - W350, F100 - F350, Comanche, J10 - J30, Dakota)
- (32) Pickup with slide-in camper
- (33) Truck based station wagon (4-door; includes Suburban, Travelall, Wagoneer)
- (34) Light truck based suburban limousine
- (35) Convertible pickup
- (39) Unknown (pickup style) light conventional truck type

Other Light Trucks (≤ 10,000 lbs GVWR)
- (40) Cab chassis based (includes rescue vehicle, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (47) Other light conventional truck type (not a pickup) (specify): _____
- (48) Unknown other light truck type (not a pickup)
- (49) Unknown light vehicle type (automobile, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)
- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): _____
- (59) Unknown bus type

Medium/Heavy Trucks (>10,000 lbs GVWR)
- (60) Step van
- (61) Single unit straight truck (10,000 lbs < GVWR ≤ 26,000 lbs)
- (62) Single unit straight truck (>26,000 lbs GVWR)
- (63) Medium/heavy truck based motorhome
- (64) Truck-tractor with no cargo trailer
- (65) Truck-tractor pulling one trailer
- (66) Truck-tractor pulling two or more trailers
- (67) Truck-tractor (unknown if pulling trailer)
- (68) Unknown medium/heavy truck type
- (69) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)
- (70) Motorcycle
- (71) Moped (motorized bicycle)
- (78) Other motored cycle type(minibike, motorscooter) (specify): _____
- (79) Unknown motored cycle type

Other Vehicles
- (80) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (88) Other vehicle type (specify): _____
- (99) Unknown body type

OCCUPANT RELATED

16. Driver Presence in Vehicle: 1
(0) Driver not present
(1) Driver present
(9) Unknown

17. Number of Occupants This Vehicle: 01
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown

18. Number of Occupant Forms Submitted: 01

VEHICLE WEIGHT ITEMS

19. Vehicle Curb Weight: 02,800
27[illegible] Code weight to nearest 100 pounds.
(010) Less than 1050 pounds
(135) 13,500 lbs or more
(999) Unknown
Source: [redacted]

20. Vehicle Cargo Weight: 0000
0 Code weight to nearest 100 pounds.
(00) Less than 50 pounds
(97) 9,650 lbs or more
(99) Unknown

RECONSTRUCTION DATA

21. Towed Trailing Unit: 0
(0) No towed unit
(1) Yes—towed trailing unit
(9) Unknown

22. Documentation of Trajectory Data for This Vehicle: 0
(0) No
(1) Yes

23. Post Collision Condition of Tree or Pole (for Highest Delta V): 0
(0) Not collision (for highest delta V) with tree or pole
(1) Not damaged
(2) Cracked/sheared
(3) Tilted <45 degrees
(4) Tilted ≥45 degrees
(5) Uprooted tree
(6) Separated pole from base
(7) Pole replaced
(8) Other (specify): _____
(9) Unknown

24. Rollover: 0
(0) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)
(1) Rollover, 1 quarter turn only
(2) Rollover, 2 quarter turns
(3) Rollover, 3 quarter turns
(4) Rollover, 4 or more quarter turns (specify): _____

(5) Rollover—end-over-end (i.e., primarily about the lateral axis)
(9) Rollover (overturn), details unknown

OVERRIDE/UNDERRIDE (THIS VEHICLE)

25. Front Override/Underride (this vehicle): 0

26. Rear Override/Underride (this vehicle): 0

(0) No override/underride, or not an end-to-end impact

Override (see specific CDC)
(1) 1st CDC
(2) 2nd CDC
(3) Other not automated CDC (specify): _____

Underride (see specific CDC)
(4) 1st CDC
(5) 2nd CDC
(6) Other not automated CDC (specify): _____

(7) Medium/heavy truck override
(9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
(997) Noncollision
(998) Impact with object
(999) Unknown

27. Heading Angle for This Vehicle: 360

28. Heading Angle for Other Vehicle: 270

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I. Single Driver	A. Right Roadside Departure	01 DRIVE OFF ROAD	02 CONTROL/ TRACTION LOSS	03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	06 SPECIFICS UNKNOWN
	B Left Roadside Departure	06 DRIVE OFF ROAD	07 CONTROL/ TRACTION LOSS	08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	11 PARKED VEH.	12 STA. OBJECT	13 PEDESTRIAN/ ANIMAL	14 END DEPARTURE	15 SPECIFICS OTHER / 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	20 STOPPED 21, 22, 23	24 SLOWER 25, 26, 27	28 DECEL. 29, 30, 31	(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	34 CONTROL/ TRACTION LOSS	36 CONTROL/ TRACTION LOSS	38 AVOID COLLISION WITH VEH.	40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER / (EACH • 43) SPECIFICS UNKNOWN
	F Sideswipe Angle	44 45 46 45 47			(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN
III Same Trafficway Opposite Direction	G Head-On	50 51 LATERAL MOVE			(EACH • 52) SPECIFICS OTHER	(EACH • 53) SPECIFICS UNKNOWN
	H Forward Impact	54 CONTROL/ TRACTION LOSS	56 CONTROL/ TRACTION LOSS	58 AVOID COLLISION WITH VEH.	60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER / (EACH • 63) SPECIFICS UNKNOWN
	I Sideswipe Angle	64 65 LATERAL MOVE			(EACH • 66) SPECIFICS OTHER	(EACH • 67) SPECIFICS UNKNOWN
IV Change Trafficway Vehicle Turning	J Turn Across Path	68 69 INITIAL OPPOSITE DIRECTIONS	71 70 INITIAL SAME DIRECTIONS	73 72		(EACH • 74) SPECIFICS OTHER / (EACH • 75) SPECIFICS UNKNOWN
	K Turn Into Path	76 77 TURN INTO SAME DIRECTION	78 79	80 81 TURN INTO OPPOSITE DIRECTIONS	82 83	(EACH • 84) SPECIFICS OTHER / (EACH • 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L Straight Paths	86 87	88 89		(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN
VI Miscellaneous	M Backing Etc.	92 BACKING VEH.	93 OTHER VEH. OR OBJECT		98 Other Accident Type 99 Unknown Accident Type 00 No Impact	

29. Basis for Total Delta V (Highest) 1

Delta V Calculated
(1) CRASH program—damage only routine
(2) CRASH program—damage and trajectory routine
(3) Missing vehicle algorithm

Delta V Not Calculated
(4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

(5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data.

(6) All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

COMPUTER GENERATED DELTA V

	Secondary	Highest
30. Total Delta V		11
11.1 Nearest mph	____	

(NOTE: 00 means less than 0.5 mph)
(97) 96.5 mph and above
(99) Unknown

	Secondary	Highest
31. Longitudinal Component of Delta V		+06
-5.5 Nearest mph	____	

(NOTE: __00 means greater than −0.5 and less than +0.5 mph)
(±97) ±96.5 mph and above
(__ 99) Unknown

	Secondary	Highest
32. Lateral Component of Delta V		+10
-9.6 Nearest mph	____	

(NOTE: __00 means greater than −0.5 and less than +0.5 mph)
(±97) ±96.5 mph and above
(__ 99) Unknown

33. Energy Absorption 0255 00
25521.7 Nearest 100 foot-lbs ____

(NOTE: 0000 means less than 50 Foot-Lbs)
(9997) 999,650 foot-lbs or more
(9999) Unknown

34. Confidence in Reconstruction Program Results (for Highest Delta V) 1
(0) No reconstruction
(1) Collision fits model—results appear reasonable
(2) Collision fits model—results appear high
(3) Collision fits model—results appear low
(4) Borderline reconstruction—results appear reasonable

35. Type of Vehicle Inspection 1
(0) No Inspection
(1) Complete inspection
(2) Partial inspection (specify):
_____

36. Is this an AOPS Vehicle? 1
(0) No
(1) Yes

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), *** DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

	a. Rotation physically restricted	b. Tire deflated
RF	2	2
LF	2	2
RR	2	2
LR	2	2

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION

☐ Manual ☑ Automatic

ORIGINAL SPECIFICATIONS

Wheelbase	103.3
Overall Length	181.2
Maximum Width	67.3
Curb Weight	2789.
Average Track	57.4
Front Overhang	39.
Rear Overhang	39.
Engine Size: cyl./ displ.	4/2.5L
Undeformed End Width	57

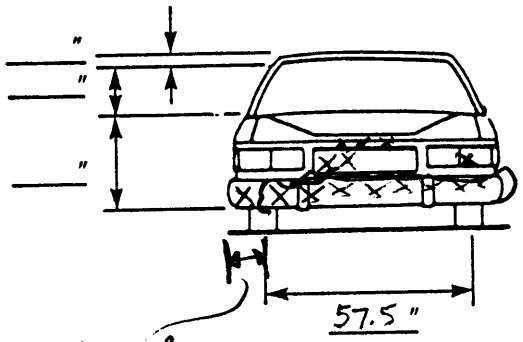
WHEEL STEER ANGLES
(For locked front wheels or displaced rear axles only)

RF ± 00 °
LF ± ___ °
RR ± ___ °
LR ± ___ °
Within ±5 degrees

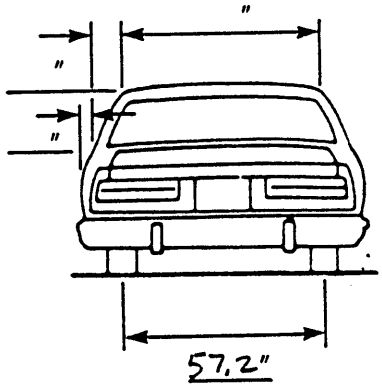
DRIVE WHEELS

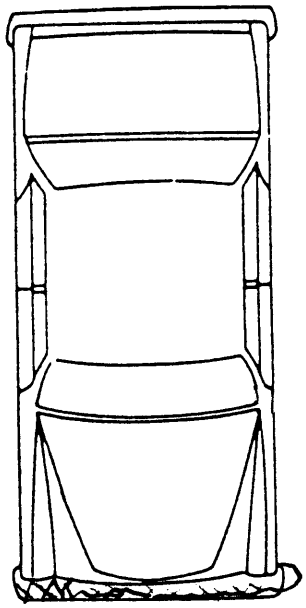
☑ FWD ☐ RWD ☐ 4WD

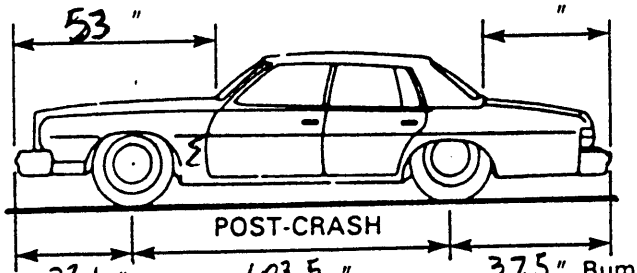
Approximate Cargo Weight 0



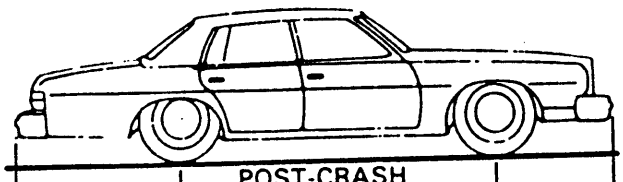
BUMPER SHIFTED 8" TO LEFT







Bumper corner 33.6" 103.5" 37.5" Bumper corner
Stringline 39.5" 39" Stringline



Bumper corner 37.5" 103" 30" Bumper corner
Stringline 39" 39.5" Stringline

NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewall, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.
Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

U.S. Department of Transportation
National Highway Traffic Safety Administration

EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: NCSI
2. Case Number – Stratum: 9002
3. Vehicle Number: 01

VEHICLE IDENTIFICATION

VIN: 1B3XA46K9L[redacted] Model Year: 1990

Vehicle Make (specify): DODGE Vehicle Model (specify): SPIRIT

LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Maximum Crush
1	FRONT BUMPER	FRONT BUMPER	C6

CRUSH PROFILE

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of C-Measurements	Direct Damage		Field L	C_1	C_2	C_3	C_4	C_5	C_6	±D
		Width (CDC)	Max Crush								
1	BUMPER	55	C6	55	6.0	2.2	1.8	2.0	4.8	9.2	0
1	F.S.				5.0	1.0	.2	.2	1.0	5.0	
1	FINAL				1.0	1.2	1.6	1.8	3.8	4.2	

CDC WORKSHEET

CODES FOR OBJECT CONTACTED

01-30—Vehicle Number

Noncollision
- (31) Overturn—rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify): _____
- (35) Noncollision injury
- (38) Other noncollision (specify): _____
- (39) Noncollision—details unknown

Collision with Fixed Object
- (41) Tree (≤4 inches in diameter)
- (42) Tree (>4 inches in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤4 inches in diameter)
- (51) Pole or post (>4 but ≤12 inches in diameter)
- (52) Pole or post (>12 inches in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (specify): _____
- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or Culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____
- (69) Unknown fixed object

Collision With Nonfixed Object
- (71) Motor vehicle not in transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance (specify): _____
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (88) Other nonfixed object (specify): _____
- (89) Unknown nonfixed object

- (98) Other event (specify): _____
- (99) Unknown event or object

DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
01	02	060	00	F	D	E	W	01

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. 01	5. 02	6. 02	7. F	8. D	9. E	10. W	11. 01

Second Highest Delta "V"

12.	13.	14.	15.	16.	17.	18.	19.

CRUSH PROFILE

(The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. ALL MEASUREMENTS ARE IN INCHES.)

HIGHEST DELTA "V"

20. L	21. C1	C2	C3	C4	C5	C6	22. – – D
055	01	01	02	02	04	04	+ – 000

Second Highest Delta "V"

23. L	24. C1	C2	C3	C4	C5	C6	25. + – D
							+ –

26. Are CDCs Documented but Not Coded on The Automated File (0) No (1) Yes	27. Researcher's Assessment of Vehicle Disposition (0) Not towed due to vehicle damage (1) Towed due to vehicle damage (9) Unknown	28. Original Wheelbase 103.3 Code to the nearest tenth of an inch (9999) Unknown
0	1	1033

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***
(I.E., GV09 = 0 OR 9), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

U.S. Department of Transportation
National Highway Traffic Safety Administration

INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: NCSI
2. Case Number–Stratum: 9002
3. Vehicle Number: 01

INTEGRITY

4. Passenger Compartment Integrity: 00

(00) No integrity loss

Yes, Integrity Was Lost Through
(01) Windshield
(02) Door (side)
(03) Door/hatch (rear)
(04) Roof
(05) Roof glass
(06) Side window
(07) Rear window
(08) Roof and roof glass
(09) Windshield and door (side)
(10) Windshield and roof
(11) Side and rear window
(12) Windshield and side window
(13) Door and side window
(98) Other combination of above (specify): _____
(99) Unknown

Door, Tailgate Or Hatch Opening

5. LF 1 6. RF 1 7. LR 1 8. RR 1 9. TG/H 0

(0) No door/gate/hatch
(1) Door/gate/hatch remained closed and operational
(2) Door/gate/hatch came open during collision
(3) Door/gate/hatch jammed shut
(8) Other (specify): _____
(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then Code 0.

10. LF 1 11. RF 1 12. LR 1 13. RR 1 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate, or Hatch Came Open During Collision
(1) Door operational (no damage)
(2) Latch/striker failure due to damage
(3) Hinge failure due to damage
(4) Door structure failure due to damage
(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
(6) Latch/striker and hinge failure due to damage
(8) Other failure (specify): _____
(9) Unknown

GLAZING

Glazing Damage from Impact Forces

15. WS 0 16. LF 0 17. RF 0 18. LR 0 19. RR 0
20. BL 0 21. Roof 0 22. Other 0

(0) No glazing damage from impact forces
(2) Glazing in place and cracked from impact forces
(3) Glazing in place and holed from impact forces
(4) Glazing out-of-place (cracked or not) and not holed from impact forces
(5) Glazing out-of-place and holed from impact forces
(6) Glazing disintegrated from impact forces
(7) Glazing removed prior to accident
(8) No glazing
(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS 0 24. LF 0 25. RF 0 26. LR 0 27. RR 0
28. BL 0 29. Roof 0 30. Other 0

(0) No occupant contact to glazing or no glazing
(1) Glazing contacted by occupant but no glazing damage
(2) Glazing in place and cracked by occupant contact
(3) Glazing in place and holed by occupant contact
(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
(5) Glazing out-of-place by occupant contact and holed by occupant contact
(6) Glazing disintegrated by occupant contact
(9) Unknown if contacted by occupant

If No Glazing Damage ***And*** No Occupant Contact or No Glazing, Then Code IV 31 Through IV 46 As 0

Type of Window/Windshield Glazing

31. WS 0 32. LF 0 33. RF 0 34. LR 0 35. RR 0
36. BL 0 37. Roof 0 38. Other 0

(0) No glazing contact and no damage, or no glazing
(1) AS-1 – Laminated
(2) AS-2 – Tempered
(3) AS-3 – Tempered-tinted
(4) AS-14 – Glass/Plastic
(8) Other (specify): _____
(9) Unknown

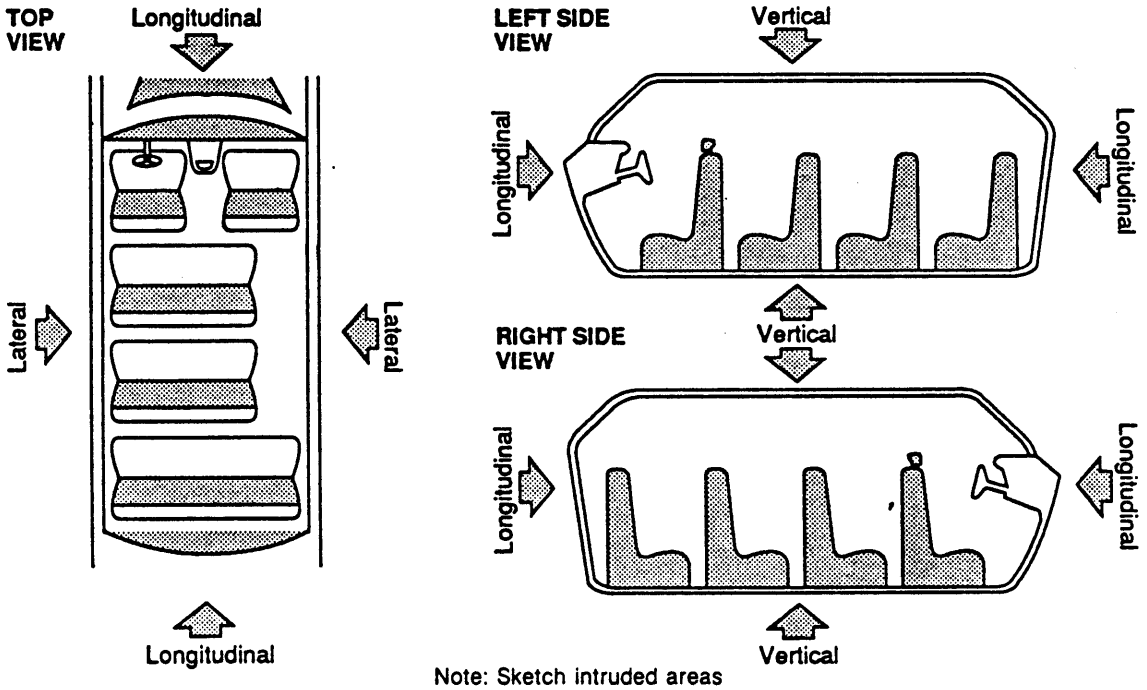
Window Precrash Glazing Status

39. WS 0 40. LF 0 41. RF 0 42. LR 0 43. RR 0
44. BL 0 45. Roof 0 46. Other 0

(0) No glazing contact and no damage, or no glazing
(1) Fixed
(2) Closed
(3) Partially opened
(4) Fully opened
(9) Unknown

HS Form 435C (Rev. 1/90)

INTRUSION WORK SHEET



Note: Sketch intruded areas

LOCATION OF INTRUSION	INTRUDED COMPONENT	COMPARISION VALUE	−	INTRUDED VALUE	=	INTRUSION	DOMINANT CRUSH DIRECTION
NONE			−		=		
			−		=		
			−		=		
			−		=		
			−		=		
			−		=		
			−		=		
			−		=		
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			−		=		
			−		=		
			−		=		
			−		=		
			−		=		
			−		=		

Document no more than the 15 most severe intrusions

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV 47-IV 86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47.___ ___	48.___ ___	49.___	50.___
2nd	51.___ ___	52.___ ___	53.___	54.___
3rd	55.___ ___	56.___ ___	57.___	58.___
4th	59.___ ___	60.___ ___	61.___	62.___
5th	63.___ ___	64.___ ___	65.___	66.___
6th	67.___ ___	68.___ ___	69.___	70.___
7th	71.___ ___	72.___ ___	73.___	74.___
8th	75.___ ___	76.___ ___	77.___	78.___
9th	79.___ ___	80.___ ___	81.___	82.___
10th	83.___ ___	84.___ ___	85.___	86.___

LOCATION OF INTRUSION

Front Seat
- (11) Left
- (12) Middle
- (13) Right

Second Seat
- (21) Left
- (22) Middle
- (23) Right

Third Seat
- (31) Left
- (32) Middle
- (33) Right

Fourth Seat
- (41) Left
- (42) Middle
- (43) Right

- (97) Catastrophic
- (98) Other enclosed area (specify): _____
- (99) Unknown

INTRUDING COMPONENT

Interior Components
- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back panel or door surface
- (26) Other interior component (specify): _____
- (27) Side panel - forward of the A-pillar
- (28) Side panel - rear of the A-pillar

Exterior Components
- (30) Hood
- (31) Outside surface of vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): _____
- (99) Unknown

MAGNITUDE OF INTRUSION
- (1) ≥ 1 inch but < 3 inches
- (2) ≥ 3 inches but < 6 inches
- (3) ≥ 6 inches but < 12 inches
- (4) ≥ 12 inches but < 18 inches
- (5) ≥ 18 inches but < 24 inches
- (6) ≥ 24 inches
- (7) Catastrophic
- (9) Unknown

DOMINANT CRUSH DIRECTION
- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

STEERING COLUMN

87. Steering Column Type 2
(1) Fixed column
(2) Tilt column
(3) Telescoping column
(4) Tilt and telescoping column
(8) Other column type (specify):

(9) Unknown

If PDOF ≠ 11, 12 or 1, Then Code IV88-IV91 As 96

88. Steering Column Collapse Due to Occupant Loading 81
_____ Code actual measured movement to the nearest inch. See coding manual for measurement technique(s).
(00) No movement, compression, or collapse
(01-19) Actual measured value
(20) 20 inches or greater

Estimated movement from observation
(81) Less than 1 inch
(82) ≥ 1 inch but < 2 inches
(83) ≥ 2 inches but < 4 inches
(84) ≥ 4 inches but < 6 inches
(85) ≥ 6 inches but < 8 inches
(86) Greater than or equal to 8 inches
(96) Not assessed (PDOF ≠ 11, 12, 1)
(97) Apparent movement, value undetermined or cannot be measured or estimated
(98) Nonspecified type column
(99) Unknown

Direction And Magnitude of Steering Column Movement

89. Vertical Movement +00

90. Lateral Movement +00

91. Longitudinal Movement +00

Code the actual measured movement to the nearest inch. See Coding Manual for measurement technique(s)
(00) No steering column movement
(±01—±49) Actual measured value
(±50) 50 inches or greater

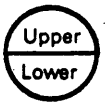
Estimated movement from observation
(±81) ≥ 1 inch but < 3 inches
(±82) ≥ 3 inches but < 6 inches
(±83) ≥ 6 inches but < 12 inches
(±84) ≥ 12 inches
(__96) Not assessed (PDOF ≠ 11, 12, 1)
(__97) Apparent movement > 1 inch but cannot be measured or estimated
(__99) Unknown

92. Steering Rim/Spoke Deformation 6
_____ Code actual measured deformation to the nearest inch.
(0) No steering rim deformation
(1-5) Actual measured value
(6) 6 inches or more
(8) Observed deformation cannot be measured
(9) Unknown

93. Location of Steering Rim/Spoke Deformation 00
(00) No steering rim deformation

Quarter Sections
(01) Section A
(02) Section B
(03) Section C
(04) Section D

Half Sections
(05) Upper half of rim/spoke
(06) Lower half of rim/spoke
(07) Left half of rim/spoke
(08) Right half of rim/spoke



(09) Complete steering wheel collapse
(10) Undetermined location
(99) Unknown

INSTRUMENT PANEL

94. Odometer Reading 002,000
2277 miles—Code mileage to the nearest 1,000 miles
(000) No odometer
(001) Less than 1,500 miles
(300) 299,500 miles or more
(999) Unknown

Source:_____

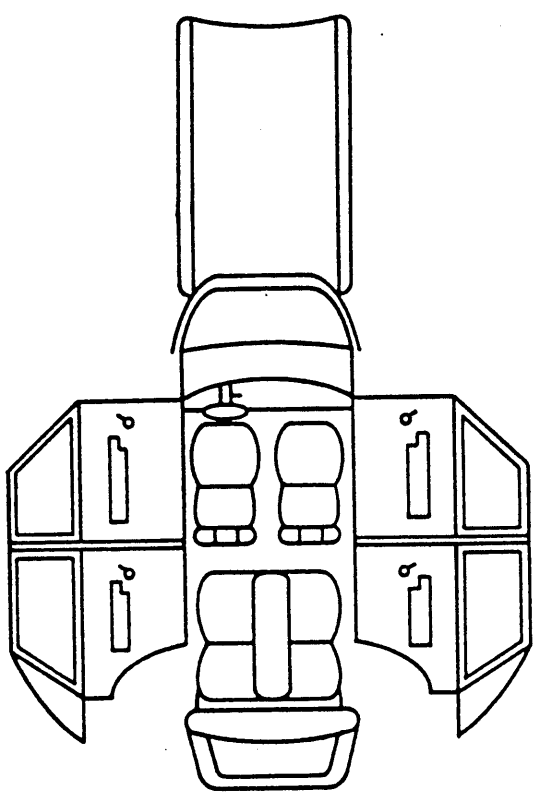
95. Instrument Panel Damage from Occupant Contact? 0
(0) No
(1) Yes
(9) Unknown

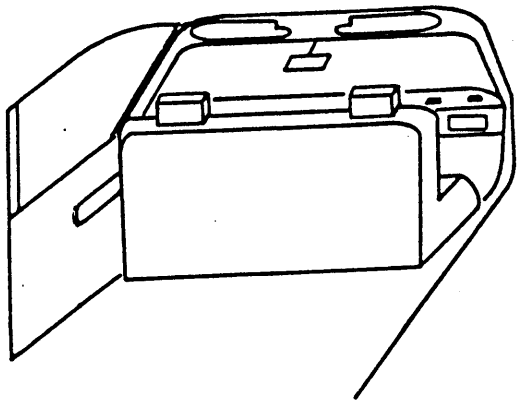
96. Knee Bolsters Deformed from Occupant Contact? 0
(0) No
(1) Yes
(8) Not present
(9) Unknown

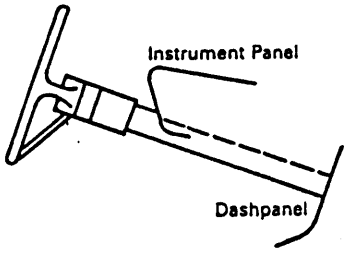
97. Did Glove Compartment Door Open During Collision(s)? 0
(0) No
(1) Yes
(8) Not present
(9) Unknown

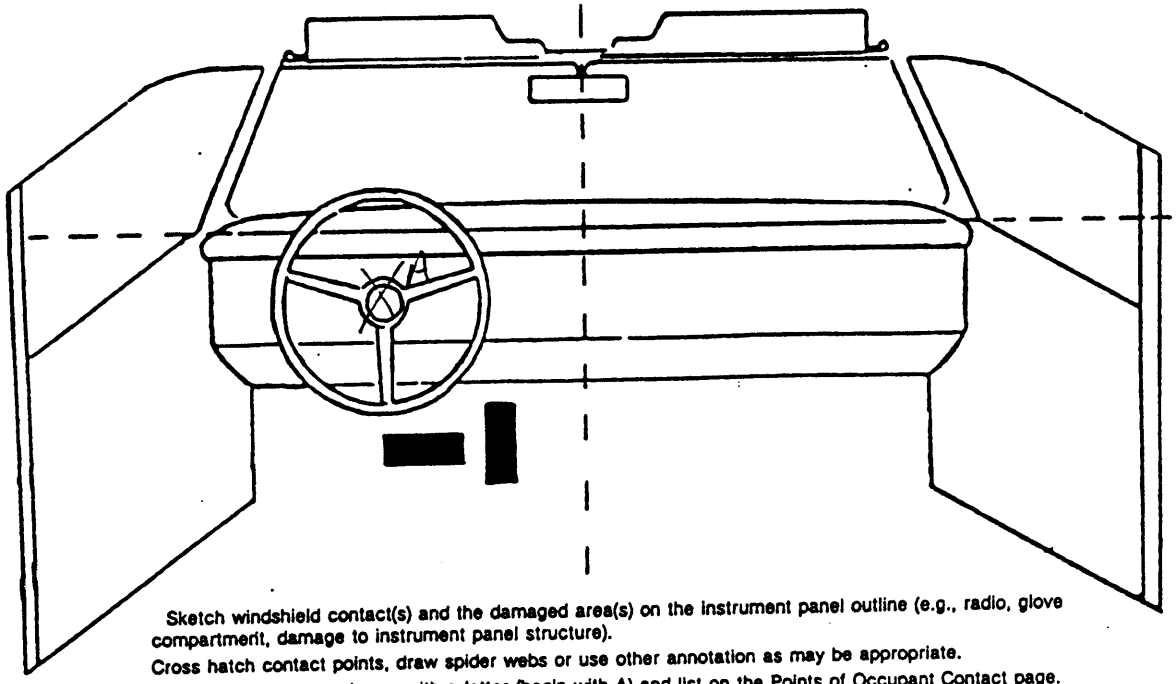
VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment









Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	AIRBAG	1	F	SKIN TRANSFER	1
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

CODES FOR INTERIOR COMPONENTS

FRONT
- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror,or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify):

LEFT SIDE
- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify):
- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify):

RIGHT SIDE
- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify):
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (37) Other right side object (specify):

INTERIOR
- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify):
- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify):
- (47) Interior loose objects
- (48) Child safety seat (specify):
- (49) Other interior object (specify):

ROOF
- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

FLOOR
- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

REAR
- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify):

CONFIDENCE LEVEL OF CONTACT POINT
- (1) Certain
- (2) Probable
- (3) Possible
- (4) Unknown

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Availability	1	0	0
	Function	4	0	0
	Failure	1	0	0

Automatic (Passive) Restraint System Availability

(0) Not equipped/not available
(1) Airbag
(2) Airbag disconnected (specify): _____
(3) Airbag not reinstalled
(4) 2 point automatic belts
(5) 3 point automatic belts
(6) Automatic belts destroyed or rendered inoperative
(9) Unknown

Automatic (Passive) Restraint Function

(0) Not equipped/not available

Automatic Belt
(1) Automatic belt in use
(2) Automatic belt not in use
(3) Automatic belt use unknown

Air Bag
(4) Airbag deployed during accident
(5) Airbag deployed inadvertently just prior to accident
(6) Deployed, accident sequence undetermined
(7) Nondeployed
(8) Unknown if deployed
(9) Unknown

Did Automatic (Passive) Restraint Fail

(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data **for each seat position** in the vehicle. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	0	4
	Use	0	00	00
	Failure Modes	0	00	00
SECOND	Availability	4	3	4
	Use	00	00	00
	Failure Modes	00	00	00
THIRD	Availability			
	Use			
	Failure Modes			
OTHER	Availability			
	Use			
	Failure Modes			

Manual (Active) Belt System Availability

(0) Not available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available — type unknown
(8) Other belt (specify):

_____

(9) Unknown

Manual (Active) Belt System Use

(00) None used, not available, or belt removed/destroyed
(01) Inoperative (specify):

_____

(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used — type unknown

_____

(08) Other belt used (specify):

_____

(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat — type unknown
(18) Other belt used with child safety seat (specify):

_____

(99) Unknown if belt used

Manual (Active) Belt Failure Modes During Accident

(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

_____

(6) Broken retractor
(7) Combination of above (specify):

_____

(8) Other manual belt failure (specify):

_____

(9) Unknown

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat	0					
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

1. Type of Child Safety Seat

(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat
(7) Other type child safety seat (specify):

_____

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

2. Child Safety Seat Orientation

(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(03) Other orientation (specify):

_____

(04) Unknown orientation

Designed for Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

_____

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

_____

(29) Unknown orientation

(99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

5. Child Safety Seat Tether Usage

Note: Options Below Are Used for Variables 3-5.

(00) No child safety seat

Not Designed with Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness/shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown if Designed with Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

6. Child Safety Seat Make/Model
(Specify make/model and occupant number)

_____

_____

_____

_____

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attributes for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	3	0	3
	Seat Type	02	00	02
	Seat Performance	1	0	1
SECOND	Head Restraint Type/Damage	0	0	0
	Seat Type	03	03	03
	Seat Performance	1	1	1
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			

Head Restraint Type/Damage by Occupant at This Occupant Position

(0) No head restraints
(1) Integral — no damage
(2) Integral — damaged during accident
(3) Adjustable — no damage
(4) Adjustable — damaged during accident
(5) Add-on — no damage
(6) Add-on — damaged during accident
(8) Other (specify): _____
(9) Unknown

Seat Type (This Occupant Position)

(00) No seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., van type)
(09) Other seat type (specify): _____
(99) Unknown

Seat Performance (This Occupant Position)

(0) No seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks failed
(4) Seat tracks/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion (specify):
_____
_____
(7) Combination of above (specify):
(8) Other (specify):
_____
(9) Unknown

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E. UNUSUAL OCCUPANT CONTACT PATTERN)

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indications that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [✓] Yes [ ]

Describe indications of ejection and body parts involved in partial ejection(s):

_____

_____

_____

_____

_____

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

Ejection
(1) Complete ejection
(2) Partial ejection
(3) Ejection, unknown degree
(9) Unknown

Ejection Area
(1) Windshield
(2) Left front
(3) Right front
(4) Left rear
(5) Right rear
(6) Rear
(7) Roof
(8) Other area (e.g., back of pickup, etc.) (specify):

_____

(9) Unknown

Ejection Medium
(1) Door/hatch/tailgate
(2) Nonfixed roof structure
(3) Fixed glazing
(4) Nonfixed glazing (specify):

_____

(5) Integral structure
(8) Other medium (specify):

_____

(9) Unknown

Medium Status (Immediately Prior to Impact)
(1) Open
(2) Closed
(3) Integral structure
(9) Unknown

ENTRAPMENT No [✓] Yes [ ]

Describe entrapment mechanism: _____

_____

_____

_____

_____

Component(s): _____

_____

(Note in vehicle interior diagram)

U.S. Department of Transportation
National Highway Traffic Safety Administration

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number: NCSF
2. Case Number–Stratum: 90-02
3. Vehicle Number: 01
4. Occupant Number: 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age: 19
Code actual age at time of accident.
(00) Less than one year old (specify by month): _____
(97) 97 years and older
(99) Unknown

6. Occupant's Sex: 2
(1) Male
(2) Female
(9) Unknown

7. Occupant's Height: 66
Code actual height to the nearest inch.
(99) Unknown

8. Occupant's Weight: 125
Code actual weight to the nearest pound.
(999) Unknown

9. Occupant's Role: 1
(1) Driver
(2) Passenger
(9) Unknown

10. Occupant's Seat Position: 11
Front Seat
(11) Left side
(12) Middle
(13) Right side
(14) Other (specify): _____
Second Seat
(21) Left side
(22) Middle
(23) Right side
(24) Other (specify): _____
Third Seat
(31) Left side
(32) Middle
(33) Right side
(34) Other (specify): _____
Fourth Seat
(41) Left side
(42) Middle
(43) Right side
(44) Other (specify): _____
(97) In or on unenclosed area
(98) Other seat (specify): _____
(99) Unknown

11. Occupant's Posture: 1
(0) Normal posture
(1) Abnormal posture (specify): _____
(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection: 0
(0) No ejection
(1) Complete ejection
(2) Partial ejection
(3) Ejection, unknown degree
(9) Unknown

13. Ejection Area: 0
(0) No ejection
(1) Windshield
(2) Left front
(3) Right front
(4) Left rear
(5) Right rear
(6) Rear
(7) Roof
(8) Other area (e.g., back of pickup, etc.)
(specify): _____
(9) Unknown

14. Ejection Medium: 0
(0) No ejection
(1) Door/hatch/tailgate
(2) Nonfixed roof structure
(3) Fixed glazing
(4) Nonfixed glazing (specify): _____
(5) Integral structure
(8) Other medium (specify): _____
(9) Unknown

15. Medium Status (Immediately Prior to Impact): 9
(0) No ejection
(1) Open
(2) Closed
(3) Integral structure
(9) Unknown

16. Entrapment: 2
(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)
(0) Not entrapped
(1) Entrapped
(9) Unknown

HS Form 433A (Rev. 1/90)

This report is authorized by P.L. 89-563, Title 1, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

RESTRAINT SYSTEM AND SEAT EVALUATION

17. Manual (Active) Belt System Availability 4
(0) Not available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available—type unknown
(8) Other belt (specify):
_____
(9) Unknown

18. Manual (Active) Belt System Use 00
(00) None used, not available, or belt removed/destroyed
(01) Inoperative (specify):
_____
(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used—type unknown
(08) Other belt used (specify):
_____
(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap *and* shoulder belt used with child safety seat
(15) Belt used with child safety seat—type unknown
(18) Other belt used with child safety seat (specify): _____
(99) Unknown if belt used

19. Proper Use of Manual (Active) Belts 0
(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly
(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
_____
(8) Other improper use of manual belt system (specify):
_____
(9) Unknown

20. Manual (Active) Belt Failure Modes During Accident 0
(0) No manual belt used or not available
(1) No *manual* belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):
_____
(6) Broken retractor
(7) Combination of above (specify):
_____
(8) Other manual belt failure (specify):
_____
(9) Unknown

21. Automatic (Passive) Restraint System Availability 1
(0) Not equipped/not available
(1) Airbag
(2) Airbag disconnected (specify):
_____
(3) Airbag not reinstalled
(4) 2 point automatic belts
(5) 3 point automatic belts
(6) Automatic belts destroyed or rendered inoperative
(9) Unknown

22. Automatic (Passive) Restraint Function 4
(0) Not equipped/not available

Automatic Belt
(1) Automatic belt in use
(2) Automatic belt not in use
(3) Automatic belt use unknown

Air Bag
(4) Airbag deployed during accident
(5) Airbag deployed inadvertently just prior to accident
(6) Deployed, accident sequence undetermined
(7) Nondeployed
(8) Unknown if deployed
(9) Unknown

23. Did Automatic (Passive) Restaint Fail? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):
_____
(9) Unknown

24. Police Reported Restraint Use 9
(0) None used
(1) Police did not indicate restraint use
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt used, type not specified
(6) Child safety seat
(7) Other or automatic restraint (specify):
_____
(8) Restrained, type unknown
(9) Police indicated "unknown"

25. Head Restraint Type/Damage by Occupant at This Occupant Position 3
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):
_____
(9) Unknown

26. Seat Type (This Occupant Position) 02
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., van type)
(09) Other seat type (specify):

(99) Unknown

27. Seat Performance (This Occupant Position) 1
(0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks failed
(4) Seat track/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion (specify):

(7) Combination of above (specify):

(8) Other (specify):

(9) Unknown

CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

29. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00
(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed for Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 00
32. Child Safety Seat Shield Usage 00
33. Child Safety Seat Tether Usage 00
Note: Options below applicable to Variables OA31-OA33.
(00) No child safety seat

Not Designed with Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness/shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 2
(0) O—No injury
(1) C—Possible injury
(2) B—Nonincapacitating injury
(3) A—Incapacitating injury
(4) K—Killed
(5) U—Injury, severity unknown
(6) Died prior to accident
(9) Unknown

35. Treatment—Mortality 4
(0) No treatment
(1) Fatal
(2) Fatal—ruled disease

Nonfatal
(3) Hospitalized
(4) Transported and released
(5) Treatment at scene—nontransported
(6) Treatment later
(8) Treatment—other (specify):

_____

(9) Unknown

36. Type of Medical Facility (for Initial Treatment) 3
(0) Not treated at a medical facility
(1) Trauma center
(2) Hospital
(3) Medical clinic
(4) Physician's office
(5) Treatment later at medical facility
(8) Other (specify):

_____

(9) Unknown

37. Hospital stay 00
____ Code number of days (up through 60) that the occupant stayed in the hospital
(00) Not hospitalized
(61) 61 days or more
(99) Unknown

38. Working Days Lost 91
____ Code the number of days (up through 60) that the occupant lost from work due to the accident
(00) No working days lost
(61) 61 days or more
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

39. Time to Death 00
____ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
(00) Not fatal
(96) Fatal—ruled disease
(99) Unknown

40. 1st Medically Reported Cause of Death 00

41. 2nd Medically Reported Cause of Death 00

42. 3rd Medically Reported Cause of Death 00
____ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(97) Other result (specify):

_____

(99) Unknown

43. Number of Recorded Injuries for This Occupant 01
1 Code the actual number of injuries recorded for this occupant.
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

UPDATE CANDIDATE NO [X] YES [ ]

***** STOP HERE *****
IF THERE ARE NO RECORDED INJURIES
(I.E., OA43=00, 97, 99)

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: NCSI
2. Case Number–Stratum: 90-02
3. Vehicle Number: 01
4. Occupant Number: 01

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	O.I.C.—A.I.S. Body Region	Aspect	Lesion	System Organ	A.I.S. Severity	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
1st	5. 7	6. E	7. I	8. L	9. D	10. 1	11. 45	12. 1	13. 2	14. 00
2nd	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
3rd	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.
4th	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.
5th	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.
6th	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.
7th	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.
8th	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.
9th	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.
10th	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.

HS Form 433B (Rev. 1/90)

This report is authorized by P.L. 89-563, Title 1, Section 108, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

SOURCE OF INJURY DATA

OFFICIAL

(1) Autopsy records with or without hospital medical records
(2) Hospital medical records other than emergency room (eg. discharge summary)
(3) Emergency room records only (including associated X-rays or other lab reports)
(4) Private physician, walk-in or emergency clinic

UNOFFICIAL

(5) Lay coroner report
(6) E.M.S. personnel
(7) Interviewee
(8) Other source (specify):

(9) Police

INJURY SOURCE

FRONT

(01) Windshield
(02) Mirror
(03) Sunvisor
(04) Steering wheel rim
(05) Steering wheel hub/spoke
(06) Steering wheel (combination of codes 04 and 05)
(07) Steering column, transmission selector lever, other attachment
(08) Add-on equipment (e.g., CB, tape deck, air conditioner)
(09) Left instrument panel and below
(10) Center instrument panel and below
(11) Right instrument panel and below
(12) Glove compartment door
(13) Knee bolster
(14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
(15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
(16) Other front object (specify):

LEFT SIDE

(20) Left side interior surface, excluding hardware or armrests
(21) Left side hardware or armrest
(22) Left A pillar
(23) Left B pillar
(24) Other left pillar (specify):

(25) Left side window glass or frame
(26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
(27) Other left side object (specify):

RIGHT SIDE

(30) Right side interior surface, excluding hardware or armrests
(31) Right side hardware or armrest
(32) Right A pillar
(33) Right B pillar
(34) Other right pillar (specify):

(35) Right side window glass or frame
(36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, roof side rail
(37) Other right side object (specify):

INTERIOR

(40) Seat, back support
(41) Belt restraint webbing/buckle
(42) Belt restraint B-pillar attachment point
(43) Other restraint system component (specify):

(44) Head restraint system
(45) Air bag
(46) Other occupants (specify):

(47) Interior loose objects
(48) Child safety seat (specify):

(49) Other interior object (specify):

ROOF

(50) Front header
(51) Rear header
(52) Roof left side rail
(53) Roof right side rail
(54) Roof or convertible top

FLOOR

(56) Floor including toe pan
(57) Floor or console mounted transmission lever, including console
(58) Parking brake handle
(59) Foot controls including parking brake

REAR

(60) Backlight (rear window)
(61) Backlight storage rack, door, etc.
(62) Other rear object (specify):

EXTERIOR OF OCCUPANT'S VEHICLE

(65) Hood
(66) Outside hardware (e.g., outside mirror, antenna)
(67) Other exterior surface or tires (specify):

(68) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

(70) Front bumper
(71) Hood edge
(72) Other front of vehicle (specify):

(73) Hood
(74) Hood ornament
(75) Windshield, roof rail, A-pillar
(76) Side surface
(77) Side mirrors
(78) Other side protrusions (specify):

(79) Rear surface
(80) Undercarriage
(81) Tires and wheels
(82) Other exterior of other motor vehicle (specify):

(83) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

(84) Ground
(85) Other vehicle or object (specify)

(86) Unknown vehicle or object

NONCONTACT INJURY

(90) Fire in vehicle
(91) Flying glass
(92) Other noncontact injury source (specify)

(97) Injured, unknown source

INJURY SOURCE CONFIDENCE LEVEL

(1) Certain
(2) Probable
(3) Possible
(9) Unknown

DIRECT/INDIRECT INJURY

(1) Direct contact injury
(2) Indirect contact injury
(3) Noncontact injury
(7) Injured, unknown source

OCCUPANT INJURY CLASSIFICATION

O.I.C. Body Region

(M) Abdomen
(Q) Ankle–foot
(A) Arm (upper)
(B) Back–thoracolumber spine
(C) Chest
(E) Elbow
(F) Face
(R) Forearm
(H) Head–skull
(U) Injured, unknown region
(K) Knee
(L) Leg (lower)
(Y) Lower limb(s) (whole or unknown part)
(N) Neck–cervical spine
(P) Pelvic–hip
(S) Shoulder
(T) Thigh
(X) Upper limb(s) (whole or unknown part)
(O) Whole body
(W) Wrist–hand

Aspect of Injury

(A) Anterior–front
(B) Bilateral (rib fracture only)
(C) Central
(I) Inferior–lower
(U) Injured, unknown aspect
(L) Left
(P) Posterior–back
(R) Right
(S) Superior–upper
(W) Whole region

Lesion

(A) Abrasion
(M) Amputation
(V) Avulsion
(B) Burn
(K) Concussion
(C) Contusion
(N) Crush
(G) Detachment, separation
(D) Dislocation
(F) Fracture
(Z) Fracture and dislocation
(U) Injured, unknown lesion
(L) Laceration
(O) Other
(P) Perforation, puncture
(R) Rupture
(S) Sprain
(T) Strain
(E) Total severance, transection

System/Organ

(W) All systems in region
(A) Arteries–veins
(B) Brain
(D) Digestive
(E) Ears
(O) Eye
(H) Heart
(U) Injured, unknown system
(I) Integumentary
(J) Joints
(K) Kidneys
(L) Liver
(M) Muscles
(N) Nervous system
(P) Pulmonary–lungs
(R) Respiratory
(S) Skeletal
(C) Spinal cord
(Q) Spleen
(T) Thyroid, other endocrine gland
(G) Urogenital
(V) Vertebrae

Abbreviated Injury Scale

(1) Minor injury
(2) Moderate injury
(3) Serious injury
(4) Severe injury
(5) Critical injury
(6) Maximum (untreatable)
(7) Injured, unknown severity

US Department of Transportation
National Highway Traffic Safety Administration

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: NCSI
2. Case Number–Stratum: 90-02
3. Vehicle Number: 02

VEHICLE IDENTIFICATION

4. Vehicle Model Year: 79
Code the last two digits of the model year
(99) Unknown

5. Vehicle Make (specify): 22
PONTIAC
Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual.
(99) Unknown

6. Vehicle Model (specify): 010
GRAND PRIX
Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual.
(999) Unknown

7. Body Type: 02
Note: Applicable codes are found on the back of this page.

8. Vehicle Identification Number
2J37Y9P[redacted]
Left justify; Slash zeros and letter Z (Ø and Z)
No VIN–Code all zeros
Unknown–Code all nine's

OFFICIAL RECORDS

9. Police Reported Vehicle Disposition: 0
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

10. Police Reported ~~Travel~~ Speed: 99
Code to the nearest mph (NOTE: 00 means less than 0.5 mph)
(97) 96.5 mph and above
(99) Unknown

11. Police Reported Alcohol or Drug Presence: 0
(0) Neither alcohol nor drugs present
(1) Yes (alcohol present)
(2) Yes (drugs present)
(3) Yes (alcohol and drugs present)
(4) Yes (alcohol or drugs present–specifics unknown)
(7) Not reported
(8) No driver present
(9) Unknown

12. Alcohol Test Result for Driver: 96
Code actual value (decimal implied before first digit–0.xx)
(95) Test refused
(96) None given
(97) AC test performed, results unknown
(98) No driver present
(99) Unknown

Source _____

ACCIDENT RELATED

13. Speed Limit: 30
(00) No statutory limit
Code posted or statutory speed limit
(99) Unknown

14. Attempted Avoidance Maneuver: 01
(00) No impact
(01) No avoidance actions
(02) Braking (no lockup)
(03) Braking (lockup)
(04) Braking (lockup unknown)
(05) Releasing brakes
(06) Steering left
(07) Steering right
(08) Braking and steering left
(09) Braking and steering right
(10) Accelerating
(11) Accelerating and steering left
(12) Accelerating and steering right
(97) No driver present
(98) Other action (specify):
_____
(99) Unknown

15. Accident Type: 89
Applicable codes may be found on the back of page two of this field form
(00) No impact
Code the number of the diagram that best describes the accident circumstance
(98) Other accident type (specify):
_____
(99) Unknown

****** STOP HERE IF GV07 DOES NOT EQUAL 01-49 ******

HS Form 435 (Rev. 1/90)

OCCUPANT RELATED

16. Driver Presence in Vehicle: 1
(0) Driver not present
(1) Driver present
(9) Unknown

17. Number of Occupants This Vehicle: 02
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown

18. Number of Occupant Forms Submitted: 00

VEHICLE WEIGHT ITEMS

19. Vehicle Curb Weight: 03,200
3247 Code weight to nearest 100 pounds.
(010) Less than 1050 pounds
(135) 13,500 lbs or more
(999) Unknown

Source: [redacted]

20. Vehicle Cargo Weight: 00,000
0 Code weight to nearest 100 pounds.
(00) Less than 50 pounds
(97) 9,650 lbs or more
(99) Unknown

RECONSTRUCTION DATA

21. Towed Trailing Unit: 0
(0) No towed unit
(1) Yes—towed trailing unit
(9) Unknown

22. Documentation of Trajectory Data for This Vehicle: 0
(0) No
(1) Yes

23. Post Collision Condition of Tree or Pole (for Highest Delta V): 0
(0) Not collision (for highest delta V) with tree or pole
(1) Not damaged
(2) Cracked/sheared
(3) Tilted <45 degrees
(4) Tilted ≥45 degrees
(5) Uprooted tree
(6) Separated pole from base
(7) Pole replaced
(8) Other (specify): _____
(9) Unknown

24. Rollover: 0
(0) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)
(1) Rollover, 1 quarter turn only
(2) Rollover, 2 quarter turns
(3) Rollover, 3 quarter turns
(4) Rollover, 4 or more quarter turns (specify): _____

(5) Rollover—end-over-end (i.e., primarily about the lateral axis)
(9) Rollover (overturn), details unknown

OVERRIDE/UNDERRIDE (THIS VEHICLE)

25. Front Override/Underride (this vehicle): 0

26. Rear Override/Underride (this vehicle): 0

(0) No override/underride, or not an end-to-end impact

Override (see specific CDC)
(1) 1st CDC
(2) 2nd CDC
(3) Other not automated CDC (specify): _____

Underride (see specific CDC)
(4) 1st CDC
(5) 2nd CDC
(6) Other not automated CDC (specify): _____

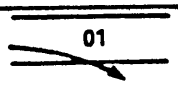
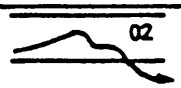
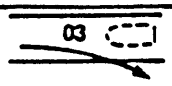
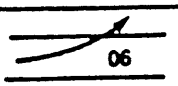
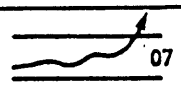
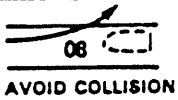
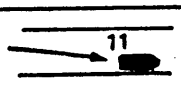
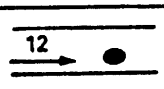
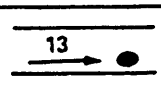
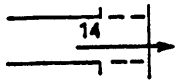
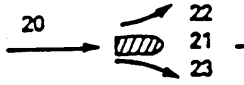
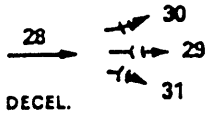
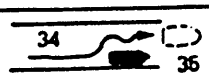
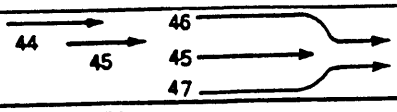
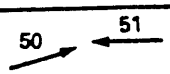
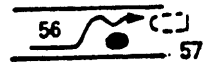
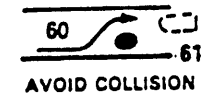
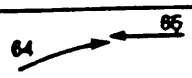
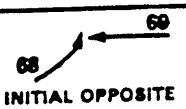
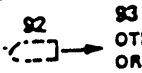
(7) Medium/heavy truck override
(9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
(997) Noncollision
(998) Impact with object
(999) Unknown

27. Heading Angle for This Vehicle: 270

28. Heading Angle for Other Vehicle: 360

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER / 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 STOPPED 21, 22, 23	 24 SLOWER 25, 26, 27	 28 DECEL. 29, 30, 31	(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER / (EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 45 46 45 47			(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN
III Same Trafficway Opposite Direction	G. Head-On	 50 51 LATERAL MOVE			(EACH • 52) SPECIFICS OTHER	(EACH • 53) SPECIFICS UNKNOWN
	H Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER / (EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe Angle	 64 65 LATERAL MOVE			(EACH • 66) SPECIFICS OTHER	(EACH • 67) SPECIFICS UNKNOWN
IV Change Trafficway Vehicle Turning	J. Turn Across Path	 68 69 INITIAL OPPOSITE DIRECTIONS	 70 71 72 73 INITIAL SAME DIRECTIONS			(EACH • 74) SPECIFICS OTHER / (EACH • 75) SPECIFICS UNKNOWN
	K. Turn Into Path	 76 77 78 79 TURN INTO SAME DIRECTION	 80 81 82 83 TURN INTO OPPOSITE DIRECTIONS			(EACH • 84) SPECIFICS OTHER / (EACH • 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L. Straight Paths	 86 87 88 89			(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN
VI Miscellaneous	M. Backing Etc.	 92 BACKING VEH. 93 OTHER VEH. OR OBJECT			98 Other Accident Type 99 Unknown Accident Type 00 No Impact	

29. Basis for Total Delta V (Highest) 1

Delta V Calculated
(1) CRASH program—damage only routine
(2) CRASH program—damage and trajectory routine
(3) Missing vehicle algorithm

Delta V Not Calculated
(4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

(5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data.

(6) All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

COMPUTER GENERATED DELTA V

	Secondary	Highest
30. Total Delta V		10
9.5 Nearest mph	———	

(NOTE: 00 means less than 0.5 mph)
(97) 96.5 mph and above
(99) Unknown

	Secondary	Highest
31. Longitudinal Component of Delta V		+08
-8.2 Nearest mph	———	

(NOTE: _00 means greater than −0.5 and less than +0.5 mph)
(±97) ±96.5 mph and above
(_ 99) Unknown

	Secondary	Highest
32. Lateral Component of Delta V		+05
4.8 Nearest mph	———	

(NOTE: _00 means greater than −0.5 and less than +0.5 mph)
(±97) ±96.5 mph and above
(_ 99) Unknown

33. Energy Absorption 019,000

19023.0 Nearest 100 foot-lbs ———

(NOTE: 0000 means less than 50 Foot-Lbs)
(9997) 999,650 foot-lbs or more
(9999) Unknown

34. Confidence in Reconstruction Program Results (for Highest Delta V) 1
(0) No reconstruction
(1) Collision fits model—results appear reasonable
(2) Collision fits model—results appear high
(3) Collision fits model—results appear low
(4) Borderline reconstruction—results appear reasonable

35. Type of Vehicle Inspection 1
(0) No Inspection
(1) Complete inspection
(2) Partial inspection (specify): _____

36. Is this an AOPS Vehicle? 0
(0) No
(1) Yes

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), *** DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

US Department of Transportation
National Highway Traffic Safety Administration

EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: NCSI
2. Case Number–Stratum: 90-02
3. Vehicle Number: 02

VEHICLE IDENTIFICATION

VIN: 2J37Y9P[redacted] Model Year: 79

Vehicle Make (specify): PONTIAC Vehicle Model (specify): GRAND PRIX

LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Maximum Crush
1	LEFT SIDE		

CRUSH PROFILE

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of C-Measurements	Direct Damage		Field L	C_1	C_2	C_3	C_4	C_5	C_6	±D
		Width (CDC)	Max Crush								
1	SIDE SURFACE	97.	5.2	115.	0	2.0	2.0	5.6	.8	0	-12.0
1	F.S.		C		0	0	0	0	0	0	
1	FINAL		C4		0	1.0	2.0	5.6	.8	0	

HS Form 435A (Rev. 1/90)

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

a. Rotation physically restricted

RF 2
LF 2
RR 2
LR 1

b. Tire deflated

RF 2
LF 2
RR 2
LR 1

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION

☐ Manual ☑ Automatic

ORIGINAL SPECIFICATIONS

Wheelbase	108.1
Overall Length	201.4
Maximum Width	72.7
Curb Weight	3246
Average Track	61.2
Front Overhang	43.3
Rear Overhang	50.4
Engine Size: cyl./ displ.	
Undeformed End Width	

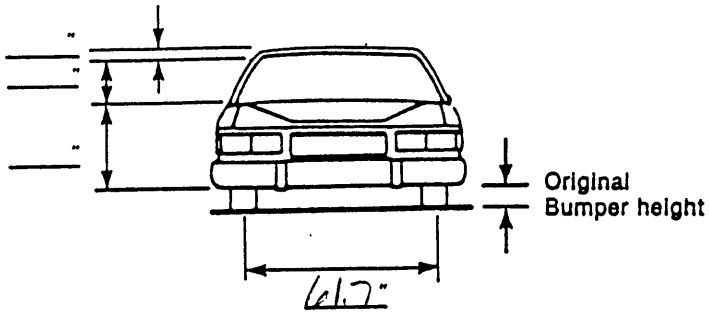
WHEEL STEER ANGLES
(For locked front wheels or displaced rear axles only)

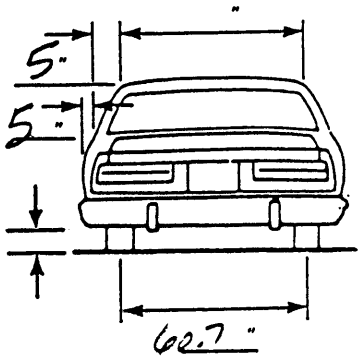
RF ± ___ °
LF ± ___ °
RR ± N/A °
LR ± ___ °
Within ±5 degrees

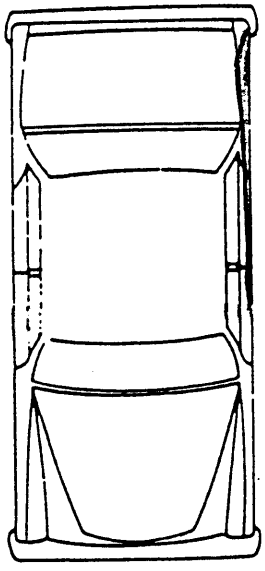
DRIVE WHEELS

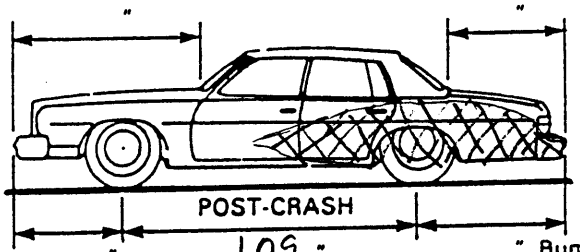
☐ FWD ☑ RWD ☐ 4WD

Approximate Cargo Weight 0



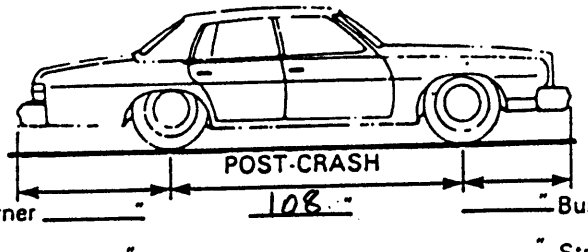






Bumper corner ___ "
Stringline ___ "

___ " Bumper corner
___ " Stringline



Bumper corner ___ "
Stringline ___ "

___ " Bumper corner
___ " Stringline

NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewall, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.
Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CDC WORKSHEET

CODES FOR OBJECT CONTACTED

01-30—Vehicle Number

Noncollision
- (31) Overturn—rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify): _____
- (35) Noncollision injury
- (38) Other noncollision (specify): _____
- (39) Noncollision—details unknown

Collision with Fixed Object
- (41) Tree (≤4 inches in diameter)
- (42) Tree (>4 inches in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤4 inches in diameter)
- (51) Pole or post (>4 but ≤12 inches in diameter)
- (52) Pole or post (>12 inches in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (specify): _____
- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or Culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____
- (69) Unknown fixed object

Collision With Nonfixed Object
- (71) Motor vehicle not in transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance (specify): _____
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (88) Other nonfixed object (specify): _____
- (89) Unknown nonfixed object

- (98) Other event (specify): _____
- (99) Unknown event or object

DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
01	01	330	00	L	Z	E	W	02

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. 01	5. 01	6. 11	7. L	8. Z	9. E	10. W	11. 02

Second Highest Delta "V"

12.	13.	14.	15.	16.	17.	18.	19.
— —	— —	— —	—	—	—	—	— —

CRUSH PROFILE

(The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. ALL MEASUREMENTS ARE IN INCHES.)

HIGHEST DELTA "V"

20.	21.						22.
L	C1	C2	C3	C4	C5	C6	− D
112	00	01	02	06	01	00	+ − 012

Second Highest Delta "V"

23.	24.						25.
L	C1	C2	C3	C4	C5	C6	+ − D
— — —	— —	— —	— —	— —	— —	— —	+ − — — — —

26. Are CDCs Documented but Not Coded on The Automated File (0) No (1) Yes	27. Researcher's Assessment of Vehicle Disposition (0) Not towed due to vehicle damage (1) Towed due to vehicle damage (9) Unknown	28. Original Wheelbase 108.1 106 Code to the nearest tenth of an inch (9999) Unknown
0	0	

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***
(I.E., GV09 = 0 OR 9), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

Appendix C

Airbag Supplement

Dup. Cols. 1-8 from prior card | Module A B | Format 0 1 | AIRBAG SUPPLEMENT | AB-1

ACCIDENT SUMMARY

ACCIDENT DATE [redacted]/90

POLICE INVESTIGATED (1,2,9)* 1

[redacted] P.D.

City _____ County _____

GENERAL LOCALITY 2
(1) Freeway, Limited Access
(2) Urban (City)
(3) Urban-Rural (mixed)
(4) Rural, Fields

CONFIGURATION (First Harm) 4

(0) Struck Object or Pedestrian
(1) Rear-End
(2) Head-On
(3) Rear-to-Rear
(4) Angle
(5) Sideswipe-Same Direction
(6) Sideswipe-Opposite Direct.
(7) NonColl:eg Fell from Veh
(8) NonImpact Deployment
(9) Unknown

FIRE INVOLVED (0) None 0
(1) AirBag Vehicle
(2) Other Vehicle
(3) Both Vehicles
(9) Unknown

NUMBER: VEHICLES INVOLVED 2
(8)=8 or more
PERSONS INVOLVED 2

INJURED PERSONS 1

MAXIMUM AIS IN ACCIDENT 1

OTHER VEHICLE: MAXIMUM AIS 0

PRIME/DEPLOY IMPACT w AB VEH: EVENT NUMBER 1

CDC 11-LFEW-2

TOTAL DELTA-V 10

Model Year, Make, Model, Body Type:

1979 PONTIAC GRAND PRIX 2 DOOR

AIRBAG VEHICLE INSPECTION

DATE VEH. INSPECTED [redacted]/90

REASON VEHICLE NOT INSPECTED 1

(0) Not Required
(1) Inspection Completed
(2) Cannot be Located**
(3) Repaired or Destroyed**
(5) Refual or Impounded**
(7) Other*
**Specify: _____

IMPACT DATA OBTAINED 4

(0) No Data Obtained
(1) CDC Only
(2) Crush Profile Only
(3) Trajectory Data Only
(4) CDC and Crush Profile
(5) CDC and Trajectory
(6) Crush and Trajectory
(7) CDC, Crush & Trajectory

BASIS OF DELTA-V 1

(0) Not Computed (Unknown Why)
(1) CRASH - Damage Only
(2) CRASH - Damage+Trajectory
(3) Missing Vehicle Algorithm
(4) Yielding Object Algorithm
(5) Unknown Basis
(6) One Vehicle Beyond Scope
(7) Collision Beyond Scope
(8) Insufficient Data

VEHICLE HISTORY

HAS AIRBAG VEHICLE BEEN IN ANY PRIOR IMPACTS (1,2,9)* 2

HAS ANY PRIOR MAINTENANCE/SERVICE BEEN PERFORMED ON SYSTEM(1,2,9)* 2

*Describe: _____

AIRBAG VEHICLE: FLEET [redacted] RENT-A-CAR

VIN 1[redacted]

MILEAGE 2277

* (1)=Yes, (2)=No, (9)=Unknown

DRAFT - [redacted]/85

SYSTEM READINESS LAMP
(In Instrument Cluster)

PRE-IMPACT LAMP CONDITION

(1) Functioning/ProvedOut
(2) Inoperative
(9) Unknown

9

DRIVER'S REPORT OF
PRE-IMPACT FLASHING

(00) No Flashing Reported
(01) Continuous Flashing
(02)
-- >Number of Flashes
(11)
(12) Constant Light
(19) Flashing, Unkn Number
(88) Not App (system removed)
(99) Unknown

00

PERIOD OF PRE-IMPACT FLASHING

(0) No Flashing
(1) Same Day as Impact
(2) Prior Day
(3) Prior Two Days
(4) Prior Week
(5) Prior Month
(6) Over One Month
(9) Unknown

0

POST-IMPACT LAMP CONDITION

(1) Functioning/ProvedOut
(2) Inoperative
(9) Unknown

9

POST-IMPACT FLASHING

(00) No Flashing
(01) Continuous Flashing
(02)
-- >Number of Flashes
(11)
(12) Constant Light
(19) Flashing, Unkn Number
(88) Not Appl (removed)
(99) Unknown

00

AIRBAG VEHICLE
FIRST HARMFUL EVENT

13

(01) Fire or explosion
(02) Immersion
(03) Gas Inhalation
(04) Fell from vehicle
(05) Injured in vehicle
(06) Other noncollision (specify):
(07) Overturn
(08) Jackknife with intraunit damage
Collision With:
(09) Pedestrian
(10) Pedalcyclist
(11) Railway train
(12) Animal
(13) Motor vehicle in transport (same roadway)
(14) Motor vehicle in transport (other roadway)
(15) Parked motor vehicle
(16) Other type nonmotorist (specify):
(17) Thrown or falling object
(18) Boulder
Collision with Fixed Object:
(20) Building
(21) Impact attenuator/Crash Cushion
(22) Bridge pier or abutment
(23) Bridge parapet end
(24) Bridge rail
(25) Guardrail
(26) Concrete traffic barrier
(27) Median barrier
(28) Other longitudinal barrier (specify):
(29) Highway/Traffic sign post
(30) Overhead sign support
(31) Luminaire/Light support
(32) Utility pole
(33) Other post, pole, or support (specify):
(34) Culvert
(35) Curb
(36) Ditch
(37) Embankment-earth
(38) Embankment-rock, stone or concrete
(39) Fence (wooden, wire, chain link, etc.)
(40) Wall (stone, rock, metal, etc.)
(41) Fire hydrant
(42) Shrubbery
(43) Tree
(44) Other fixed object (specify):
(45) Pavement surface irregularity (pothole, grooved, grates)
(99) Unknown

AIRBAG VEHICLE IMPACT SUMMARY

VEHICLE ROLE — 1

(0) Non-collision
(1) Striking Unit
(2) Struck Unit
(3) Both Striking and Struck
(9) Unknown

MANNER OF LEAVING SCENE — 2

(1) Driven
(2) Towed-due to damage
(3) Towed - not for damage
(4) Towed - details unknown
(5) Abandoned
(9) Unknown

NUMBER OF IMPACT EVENTS — 1
(8) 8 or more, (9) Unknown

ROLLOVER — 0
(0) No Rollover
(1) First Event
(2) Subsequent Event
(3) Yes, Unknown Event
(9) Unknown

OVERRIDE/UNDERRIDE — 0

(1) No over/underride
(1) Override - 1st CDC
(3) - Other CDC
(4) Underride - 1st CDC
(6) - Other CDC
(9) Unknown

AIRBAG VEHICLE DAMAGE

CODES: (1) Yes, DAMAGED
(2) No Damage
(9) Unknown

LEFT FRONT FENDER DAMAGE — 1

RIGHT FRONT FENDER DAMAGE — 1

CENTER TOP OF GRILLE DAMAGE — 1

FRONT BUMPER E.A. STATUS: Left — 4

(1) Normal Right — 4
(2) Extended
(3) Partial Compression
(4) Complete Compression
(5) Not Applicable
(9) Unknown

FIRST AIRBAG VEHICLE IMPACT:

CONFIGURATION — 4

(0) Struck Object or Pedestrian
(1) Rear-End
(2) Head-On
(3) Rear-to-Rear
(4) Angle
(5) Sideswipe - Same Direction
(6) Sideswipe-Opposite Direct.
(7) NonColl:eg Fell from Veh
(8) NonImpact Deployment
(9) Unknown

CDC __ __ - __ __ __ __ - __

OBJECT CONTACTED: _____

PRIMARY/DEPLOYMENT IMPACT:

EVENT NUMBER — 1

TOTAL DELTA-V — 11

LONGITUDINAL DELTA-V — 06

CONFIGURATION — 4

(0) Struck Object or Pedestrian
(1) Rear-End
(2) Head-On
(3) Rear-to-Rear
(4) Angle
(5) Sideswipe - Same Direction
(6) Sideswipe-Opposite Direct.
(7) NonColl:eg Fell from Veh
(8) NonImpact Deployment
(9) Unkonwn

CDC 02 - F D E W - 1

OBJECT CONTACTED: 79 GRAND PRIX

NOTES:

AIRBAG SYSTEM DAMAGE

CODES: (1) Yes, Damaged*
(2) No, Intact
(8) Not App.(Removed)
(9) Unknown

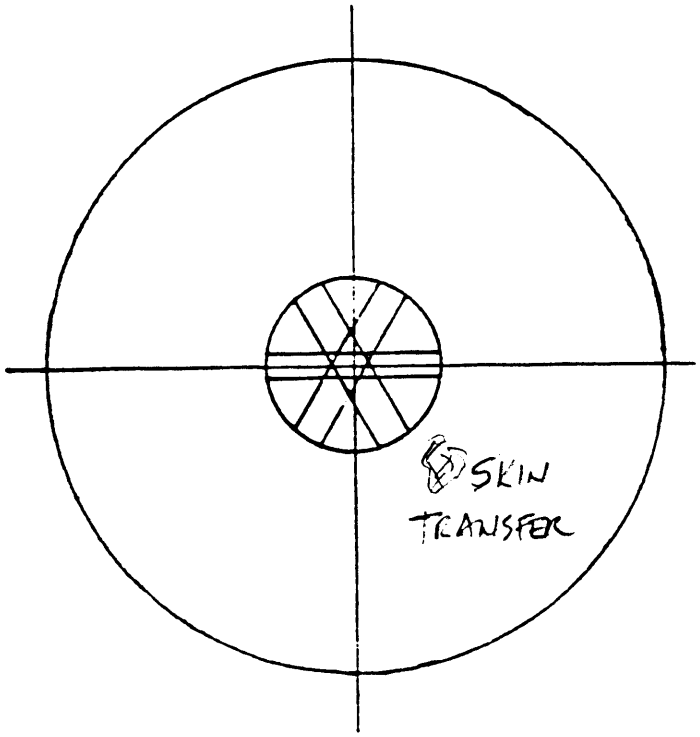
AIRBAG MODULE	2
SENSORS: Left Front	2
Center Front	2
Right Front	2
Rear, Cowl	2
DIAGNOSTIC MODULE	2
WIRING	2
KNEE DIVERTER	2
INDICATION OF DISCONNECTED OR LOOSE ELECTRICAL CONNECTORS	2

CONDITION OF DEPLOYED BAG 1

(1) Bag Intact
(2) Split or Torn*
(3) Cut by Object In Impact*
(4) Cut after Accident*
(5) Other (e.g., burned)*
(8) N/A (not deployed)
(9) Unknown

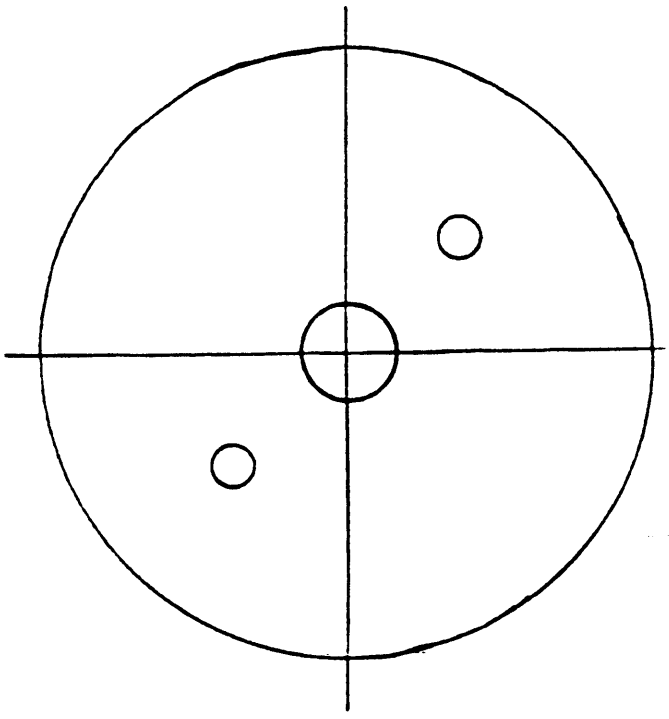
*DESCRIBE System and Bag Damage:

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:



FRONT

TOP



BOTTOM

BACK

OCCUPANTS of AIRBAG CAR

NUMBER OF OCCUPANTS IN VEHICLE (8) 8 or more: 1

NUMBER OF INJURED PERSONS: 1

MAXIMUM AIS IN AIRBAG VEHICLE: 1
(0) No Injury
(1-6) AIS Severity
(7) Injured, Unknown Severity
(9) Unknown

DRIVER AGE 19 SEX F

NUMBER OF DRIVER INJURIES: 1

SOURCE OF BEST INJURY DATA: 7
(0) Not Injured
(1) Autopsy w/wo med. records
(2) Hospital Medical Records
(3) Emergency Room only
(4) Private physician, Clinic
(5) Lay Coroner Report
(6) EMS Personnel
(7) Interviewee
(8) Police
(9) Unknown

MAXIMUM AIS BY BODY REGION

REGION	MAX AIS	CONTACT
Head/Neck/Face	1	4 5
Chest	0	— —
Abdomen	0	— —
Leg/Hips	0	— —
Other (Arms)	0	— —
DRIVER MAXIMUM	1	4 5

EJECTION: Extent N/A

Portal

NOTES:

DRIVER BELT USAGE: (1) Used (2) Not Used (9) Unknown 2

Evidence: _____

_____

DRIVER POSTURE: Any Comments Recorded (1) Yes, (2) No 2

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs and feet. Also note hand and arm position. Did driver brace before crash? Describe:

_____

_____

_____

_____

DRIVER FOREIGN OBJECTS: Comments Recorded (1) Yes, (2) No 2

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:

_____

_____

_____

DRIVER COMMENTS: Comments Recorded (1) Yes, (2) No 2

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

_____

_____

_____

_____

PASSENGER-AIRBAG CONTACT (1) Yes, (2) No, (9) Unknown 2

Describe: _____

_____

Appendix D

EDCRASH Printout

S U M M A R Y O F E D C R A S H R E S U L T S

ENGINEERING DYNAMICS CORPORATION Date [redacted] Time [redacted]

NCSI 90-02

WARNING MESSAGES: NO MESSAGES

VEHICLE # 1

IMPACT SPEED MPH		SPEED CHANGE MPH			BASIS OF RESULTS
FWD	LAT	TOTAL	LONG.	LATERAL	
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND CONSERVATION OF LINEAR MOMENTUM
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND DAMAGE
		11.1	-5.5	-9.6	DAMAGE DATA ONLY

VEHICLE # 2

IMPACT SPEED MPH		SPEED CHANGE MPH			BASIS OF RESULTS
FWD	LAT	TOTAL	LONG.	LATERAL	
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND CONSERVATION OF LINEAR MOMENTUM
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND DAMAGE
		9.5	-8.2	4.8	DAMAGE DATA ONLY

SUMMARY OF DAMAGE DATA

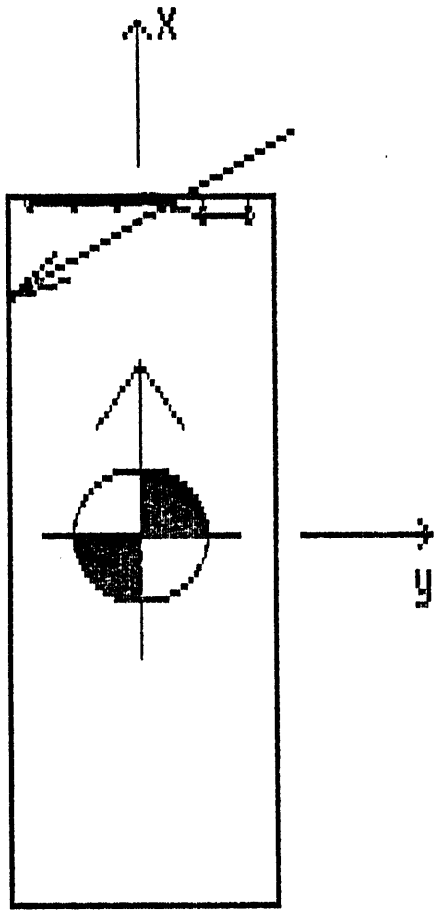
NOTE: '**' indicates default value

	VEHICLE #1	VEHICLE #2
CLASS (SIZE) CATEGORY	2	3
WEIGHT	2914.0 LBS.	3397.0 LBS.
DOC	02FDEW1	11LZEW2
DAMAGE WIDTH	55.0 IN.	115.0 IN.
CRUSH DEPTH 1	1.0 IN.	0.0 IN.
CRUSH DEPTH 2	1.2 IN.	2.0 IN.
CRUSH DEPTH 3	1.6 IN.	4.0 IN.
CRUSH DEPTH 4	1.8 IN.	6.0 IN.
CRUSH DEPTH 5	3.8 IN.	0.8 IN.
CRUSH DEPTH 6	4.2 IN.	0.0 IN.
DAMAGE MIDPOINT OFFSET	0.0 IN.	-12.0 IN.
DAMAGE ENERGY	25521.7 FT.-LB.	19023.0 FT.-LB.
MAGNITUDE OF PRINCIPAL FORCE	50180.3 LB.	73327.6 LB.
DIRECTION OF PRINCIPAL FORCE	60.0 DEG. **	-30.1 DEG. **
MOMENT ARM OF PRINCIPAL FORCE	-67.2 IN.	-36.5 IN.
DAMAGE CENTROID	7.5 IN.	-13.4 IN.

DIMENSIONAL, INERTIAL AND TIRE/ROAD PROPERTIES

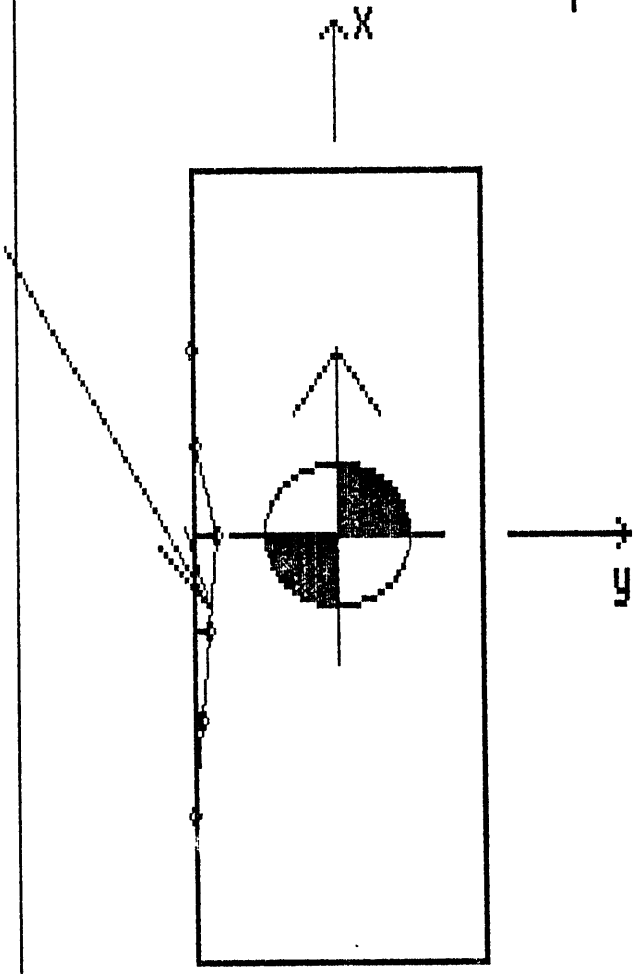
	VEHICLE #1	VEHICLE #2
CG TO FRONT AXLE	46.3 IN.	51.3 IN.
CG TO REAR AXLE	50.1 IN.	55.5 IN.
TRACK WIDTH	54.6 IN.	58.9 IN.
YAW MOMENT OF INERTIA	22254.7 LB-SEC^2-IN	29222.6 LB-SEC^2-IN
MASS	7.5 LB-SEC^2/IN	8.8 LB-SEC^2/IN
BODY LENGTH FROM CG TO FRONT	83.3 IN.	89.8 IN.
BODY LENGTH FROM CG TO REAR	-91.6 IN.	-106.4 IN.
BODY WIDTH	67.2 IN.	72.6 IN.

1990 Dodge Spirit



CDC/PDOF: 02FDEW1 60.0 deg
Max. Impact Force: 50180 lb

1979 Pontiac Grand Prix



CDC/PDOF: 11LZEW2 -30.1 deg
Max. Impact Force: 73328 lb

EDCRASH
Damage Profiles

	Veh #1	Veh #2
Delta-V (mph):		
X	-5.5	-8.2
Y	-9.6	4.8
Tot	11.1	9.5
Crush Data (in):		
W	55.0	115.0
D	0.0	-12.0
C1	1.0	0.0
C2	1.2	2.0
C3	1.6	4.0
C4	1.8	6.0
C5	3.8	0.8
C6	4.2	0.0